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CHILE
TODAY AND TOMORROW

BY

L. E. ELLIOTT

AUTHOR OF "BRAZIL: TODAY AND TOMORROW,"
"BLACK GOLD," ETC.

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CONTENTS

CHAPTER I

PAGE

CHILE, TODAY AND TOMORROW 1

Physical Characteristics—North, South, and Central Chile—Brilliant Hues—Climate—Wet and Dry Seasons—Social Problems—Far-flung Cities—Formation of Character—Animals and Plants.

CHAPTER II

CHILEAN HISTORY 20

Inca Rule and Native Chiefs—Spanish Colonial Period—The Fight for Independence—Republican Chile.

CHAPTER III

STRANGERS ON THE PACIFIC COAST 72

Drake and the *Golden Hind*—Thomas Cavendish—The Narborough Expedition—Sharp and Dampier—Captain Betagh—The Loss of the *Wager*—Juan and Ulloa—Resident Foreigners—Strangers and Independence.

CHAPTER IV

THE INQUISITION IN CHILE 106

Escobar—Aguirre—Sarmiento—European Corsairs—Decay of Power.

CHAPTER V

THE STRAIT OF MAGELLAN 116

The First Navigators: Magellan, Sebastian del

CONTENTS

PAGE

Cano, Loaysa, Alcazaba—Sarmiento—The City of Philip—Cavendish—Port Famine and Punta Arenas.

CHAPTER VI

TACNA QUESTION 135

The Storm Centre—Indeterminate Position of Tacna—Peru and Chile—Boundary Problem—Guano and Nitrate—The War of 1879—Treaties—Appeal to the League of Nations—Discussions at Washington.

CHAPTER VII

NG 150

The Nitrate Industry—Copper—Iron—Gold and Silver—Coal—Petroleum—Borax, Sulphur, Manganese, etc.

CHAPTER VIII

CULTURE 199

Area under Cultivation—Oases in the Desert—Farming in Central Chile—Vineyards—Wheat

CHAPTER XII

PAGE

FINANCE 272

Conversion Fund—Currency—Debts—Public Revenues.

CHAPTER XIII

CHILE'S NAVAL POSITION 283

Chile and the World War—Strength of the Chilean Navy—The Army.

CHAPTER XIV

IMMIGRATION 291

The First Immigrants of the South—Araucanian Lands.

CHAPTER XV

CHILEAN LITERATURE 298

Conditions of Authorship—Historians—Politicians, Engineers and Novelists—The Society Novel—Realistic School—Poets.

CHAPTER XVI

NATIVE RACES OF CHILE 309

Inca Control—Racial Divisions—The Southern Tribes—Araucanians—Race Mixture—Archaeology.

CHAPTER XVII

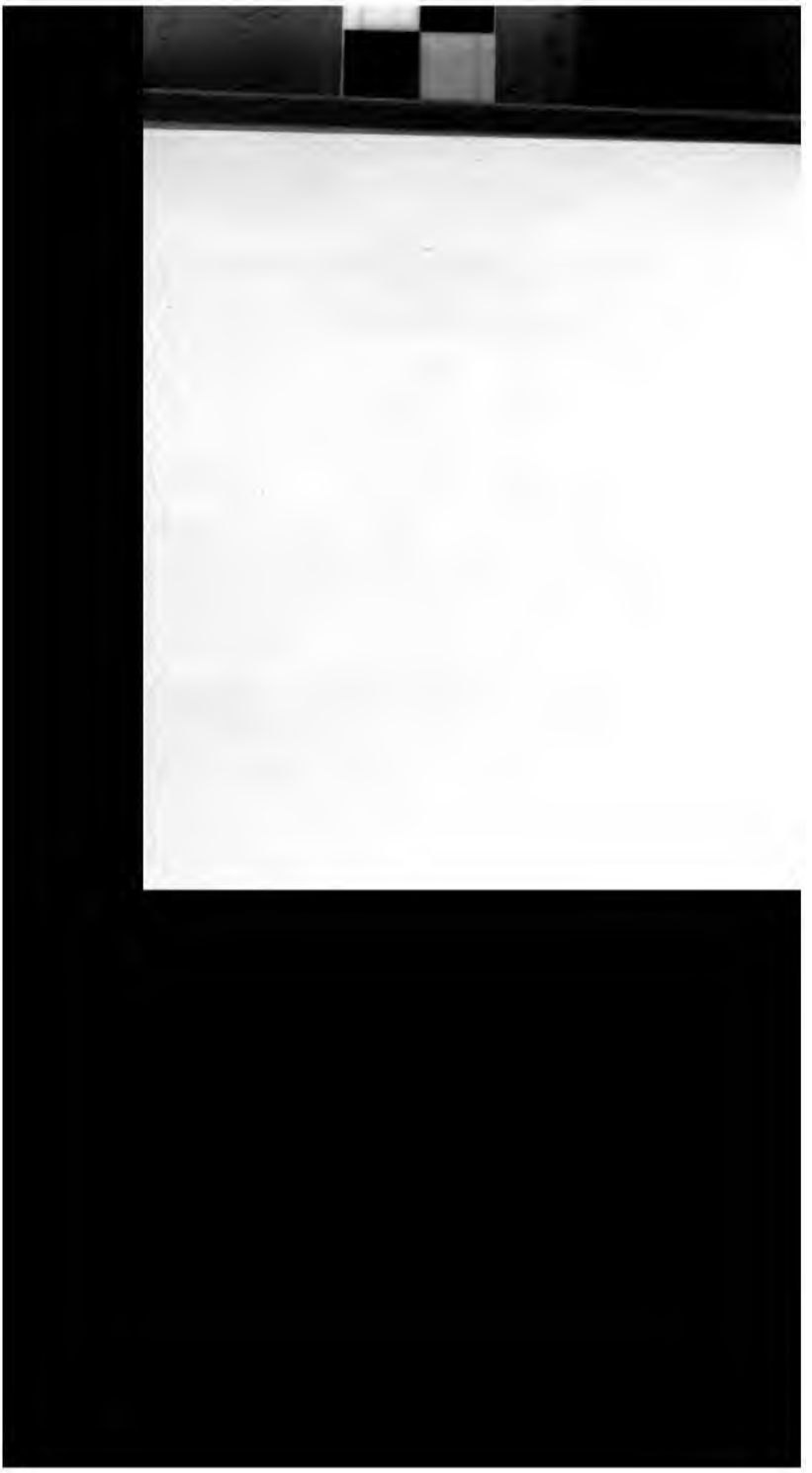
EASTER ISLAND 322

A Lost Culture—Fate of the Islanders—The Statues—The Bird Cult—Wooden Carvings.

CHAPTER XVIII

A NOTE UPON VITAL STATISTICS 333

Provinces and Population of Chile—Chilean Terms.



LIST OF ILLUSTRATIONS

Front End-paper.....Woodland in the Chilean South
Back End-paper.....Puerto Gallant, in the Strait of Magellan
Frontispiece.....Lake Llanquihue, South Chile
Maps (at end of volume).....{ Political Map of Chile / Railway Map of Chile

Facing page

Lake Todos los Santos..... 4
Balmaceda Glacier..... 6
Volcano San Pablo. Desert in Atacama Province. In Northern Antofagasta Province. The River Loa in the Dry Season..... 8
In the Strait of Magellan..... 10
Santa Lucia Hill, Santiago. Parque Forestal, Santiago. Municipal Offices, Santiago..... 12
Viña del Mar, Valparaiso's Residential Suburb. Valparaiso Street, Viña del Mar. Race Course, Viña del Mar. Mira-Mar Beach, Viña del Mar..... 18
Reproductions from Gay's "History of Chile": Más a Tierra (Juan Fernández Group) Island in the 18th Century. Capturing Condors in the Chilean Andes. O'Higgins' Parliament with the Araucanian Indians, March, 1793. Guanacos on the Edge of Laja Lake..... 42
In the Chilean Andes. A Chilean Glacier, Central Region. Rio Blanco Valley, above Los Andes..... 52
San Juan Bautista, Village of Cumberland Bay, Más a Tierra Island (Juan Fernández Group), 400 Miles West of Valparaiso. The Plain of Calavera, Chilean Andes..... 66
Last Hope Inlet (Ultima Esperanza). Channel in the Territory of Magellanes..... 94
Balmaceda Glacier, South Chile. In Smyth Channel, heading North from Magellan Strait..... 124
The Nitrate Pampa: Opening up Trench after Blasting. General View of Nitrate and Iodine Plant..... 152
Antofagasta. The Nitrate Wharves..... 174

LIST OF ILLUSTRATIONS

Facing page

amp at Night. Sewell (El Teniente Copper Mines) near agua 178

the Snows of June. Railway between Rancagua and El nte 182

hue Coal Mine, Arauco Province. Dulcinea Copper Mine, pó Province. Chuquicamata Copper Mines, Antofagasta nce 196

itución, South of Santiago. San Cristobal Hill and Parque tal, Santiago. Malleco Bridge, near Collipulli 228

Office, Santiago. Santiago, with the Snow-capped Andes Eastern Distance. Subercaseaux Palace, Santiago 242

hilean Transandine Railway. Laguna del Portillo: near the andine line. Santa Rosa de los Andes, Chilean Terminus of ransandine Railway 256

o, the "Capital of North Chile." Ancud, the Port of Chiloé . Zapallar, a beautiful Chilean Watering Place 260

Nitrate Port of North Chile. Puerto Corral, the Port of via, South Chile 264

a Flourishing New Southern City. Punta Arenas, the ernmost City in the World. Puerto Varas, facing Calbuco no, Lake Llanquihue 292

an Indian spinning. Note the solid wooden wheel of the

CHILE

TODAY AND TOMORROW

CHAPTER I

Physical Characteristics. — North, South, and Central Chile. — Brilliant Hues. — Climate. — Wet and Dry Seasons. — Social Problems. — Far-flung Cities. — Formation of Character. — Animals and Plants.

CHILE is a ribbon of a country, an emerald and gold strip stretched between the snow-crowned wall of the Andes and the blue waters of the Pacific.

This ribbon is up-tilted all along its western edge to form the coastal range defending the long central valley. It is lightly creased transversely where, from east to west, streams fed with snow-water drain down from the Andean peaks. Below the fortieth degree of south latitude the ribbon is twisted and ragged, with the tilted edge half sunk in stormy waters. Thirty times as long as it is wide, Chilean territory runs from the seventeenth to the fifty-sixth degree of south latitude, for, with a Pacific coast measuring nearly three thousand miles the average breadth is no more than ninety. It is a land of extreme contrasts; of great violence, of great serenity: but whether harsh or smiling, Chile is a stimulating, a promising land holding the mind and the heart. It is a breeder of men and women of forcible character.

To the north lie the tawny and burning deserts where not so much as a blade of grass grows without artificial

help, where no rain falls, year after year, where every form of life is an alien thing. In the south are broken, rocky islands and inlets, matted forests of evergreen trees with their feet in eternal swamps, of furious gales and cruel seas, where turquoise glaciers creep into the dark fiords. Eastward stands the great barrier of the Andes, snow-covered for half the year, with proud peaks rising at least eight thousand feet higher than the head of Mont Blanc. To the west, Chile looks out upon a waste of waters, with New Zealand as the nearest great country.

Shut in or defended by these barriers from each point of the compass, it is plain that Chile has had no sisters closely pressing upon her threshold. One might reasonably expect to find here a race possessing characteristics in common with island folk, a homogeneous people

America, one of the most enchantingly lovely, the most frankly friendly, regions in all the world.

It seems as though nature had deliberately tried to compensate here for the arid and the stormy end of the belt by showering beauty upon the intervening strip. There is none of that strange illusory quality, the sense of living in a mirage, that attends upon tropical regions. Central Chile is fresh, dewy-bright, with the familiar sweetness of the temperate zones of western Europe. Here are fine cattle, sheep and horses, pleasant orchards of pears and plums and apples; olive groves and grapevines; the long green lines of wheat fields, the spires of the poplars, the blackberry hedges edged with gorse and bracken and purple-headed thistles, are all familiar. The stock of the farms, every kind of crop — except those invaluable American contributions to the world's list of foods, maize and potatoes — were introduced from overseas, but they have long been absorbed into the economic life of Chile. If the visitor is lulled into forgetfulness of his real milieu by the sight of neat wooden fences, by the bramble-bordered and fern-edged lane, he is recalled by the sudden glimpse of a shining white cone suspended in the transparent air, the snowy head of a far volcano. Or he may see in the thicket beside the road a trail of copihue with its bright rosy bell, or note that the farmer, ruddy-cheeked and bright-eyed, riding a fine horse along a deep muddy road, wears a gay poncho and a pair of enormous silver spurs.

It is the Chilean south that has brought to the Pacific Coast its fame as a land of beautiful pictures. Before Puerto Montt is reached, the edge of Lake Llanquihue is skirted by the railway, and the sight of this splendid sheet of water is an introduction to the wild and lovely scenery that was still unknown fifty

ago. The mountain and lake regions of Chile
even yet not been thoroughly explored, and that
ıch of this magnificent territory has been charted
tly due to the ancient uncertainty of exact bound-
mits with Argentina, and, after long negotiations,
ırveying work of Holdich at the head of the com-
ɔn of 1898, reporting to King Edward VII as
ɾator. Between Chile and Argentina lies a series
quisite lakes, many lying in old volcano cups.
ɨ is no more lovely body of fresh water in the world
Todos los Santos, with emerald heights rising clear
the mirror of the water; Rupanco, Riñihue,
o, and Viedma are beads upon a splendid chain
e waters.

ile is a land of brilliant hues. The dark waters,
dered by tree-clothed mountains, of the Strait of
llan, reflect yellow and russet leaf-changes as
t as in the maple woods of Canada. Blue glaciers,
snow heads and the delicate green of fern brakes

Lake Todos los Santos.

Every smallest thread of water is here edged with a lush growth of bright emerald plants, every bush is a mass of orange or purple flowers. And in the settled spots there is grace in every tree, a picturesque quality in each little thatched hut by the wayside, an insouciance that lends charm to 'dobe walls and maize patches. The beauty and the kindliness of Chile are, in fact, apt to destroy one's critical faculties.

The weather in Chile may be called extremely obvious. It is impossible to ignore it, as in some other countries, despite the situation of the greater part of Chilean territory within the temperate zone. The remarkable topographical conditions of this strip force each barometrical change upon the attention.

In the rainless north, modifications are chiefly confined to the effects of the curious sea-mist, the *camanchaca*, spreading over some parts of the pampas to fifty miles inland; appearing about six in the evening, these fogs screen the coast and promptly lower the temperature, so that, scorching at mid-day, one shivers under blankets at night. In the extreme south, among the islands and channels of the Magellanic region, boisterous seas and violent winds, cold and rain, made it the terror of sailors for three hundred years. The prevailing weather displays traits almost as unvarying as in the sharply contrasted north. Fine and calm days are rarities, although the climate is certainly not unhealthy, as Punta Arenas demonstrates.

But it is in the central region lying between Coquimbo and Valdivia that changes of weather have the most spectacular effect. In the valleys of the Aconcagua, the Mapocho, the Maule and the Bio-Bio we have perhaps the most striking results when the rainy season begins, usually towards the end of April. In the

few hours rain into a deep morass. Bu
ains in the central Chilean valleys sno
n the Andean heights, and presently th
months have glanced with the indiffere
at the far-distant, blue-shrouded, tav
s are astonished with a vision of giant
ılders that seem to have made an imm
ard to the edge of the next field, their s
ence covered with shining white.
he effect upon the foothills is no les
ing the last months of the dry season –
he vineyard regions for some eight montl
of ground that is not artificially irri
n on a uniform sandy hue. The whol
hed and the roads are a foot deep in c
in a week of the first rain a shimmering v
n tinges the land; in ten days every knol
has its carpet of young grass, and in a
le face of the country is changed, awak
t, bursting out with sturdy fertility. S
he Aconcagua and the Mapocho, dwindl
g threads among the wide stone-strewn
ıged in a night to raging torrents, fed fron
ıe mountains. More than once these silv

Balmaceda Glacier.

urney, Balmaceda and Sarmiento, are striking an
gnified with their snow crowns.

The long dry season of Mid Chile, and the violenc
rains in the wet months, render the construction o
rmanent roads a task necessitating immense outlay
ile has 35,000 kilometres of highroads, but reckon
ly a few thousand kilometres in first-class condi
n: a recent Road Law aims at a reform of vital im
rtance to the Chilean farmer. But if roads ar
arce, Chile has an excellent system of railways
rving the main length of her territory, connectin
th all exporting points along the coast, and linkin
lparaiso to Buenos Aires. The adequate equipmen
ports — of which there are sixty, important or em
yo — has always presented difficulties, owing to th
allow character of almost every indentation, wit
e notable exception of Talcahuano, and the prevalenc
heavy ground swells and strong gales from the nort
d the southwest.

Volcano San Pablo, on the Bolivian Border of Chile.
Desert in Atacama Province.

In Northern Antofagasta Province.
The River Loa in the Dry Season.

mans, 11,000, or 8 per cent; French, 10,000; British, 10,000; Italians, 13,000; Swiss, 2000; North Americans, 1000; Chinese, 2000; Argentines, 7000.

The various foreign elements are lost among Chile's four million native-born, and the majority of all newcomers remain in the country and are presently added to the Chilean stock. There has never been, fortunately for the country, any influx of unassimilable races; and while there is plenty of room for a large population, increase is more certain when it is from the inside rather than superimposed.

Chile has, in fact, enjoyed all the advantages of being known as a poor country for many generations; there have been no periods of delirious boom or extravagance, she has been comparatively little exploited, owes comparatively little to the outside world, and has developed her soul with a certain leisure.

Politically, she has been equally lucky. Most of her rulers have been wise and cultivated men of high probity. The unhappy Balmaceda, against whom was fomented the solitary revolt in Chile since she settled down to work after Independence, bears a name that is today revered throughout the country, with no accusation affecting his integrity. No Governor or President of Chile has been assassinated during the whole history of the country, before or since the close of the Spanish colonial régime.

The genuine exercise of the vote, and the temperamental cheerfulness and sanity of the Chilean, have saved the country from many miseries suffered by less unified lands.

Two special causes of the general level-headedness and sobriety of the Chilean are, first, the strong position of women in family life, and next the high standard of education. Education provides a channel through

youth can flow, and here, where state elementary
ls are spread throughout the country to the num-
f 3000, with 1000 private and secondary schools,
boy and girl has a chance. The Chilean Govern-
has long followed a policy of sending a number of
rightest students of the high schools and universi-
broad for final courses in languages and science,
or this reason is less dependent than the majority
ng countries upon the exterior world for engineers,
ists and teachers.

e fine prosperous cities of Chile possess, of course,
e equipment, all the luxury and grace, of modern
all over the world. If one were to shut out the
ground of snow-crowned mountains, and hap-
l to be out of sight of such streets as retain Spanish
nies and tiled roofs, one might imagine many a
ct of Santiago to be a part of a first-class French
nglish city. The tramways, the common use of

In the Strait of Magellan.

a link with the past, for although it is away from the traffic stream today it was once a stopping-place on the direct Inca route between Potosi and Arica on the Pacific; Tacna owes its modern existence to its little railway; but Arica is newly alive, a busy port in a bower of gay flowers, a garden on the edge of a waste.

South of Arica lies a fringe of new nitrate towns along the sea-border of the *pampas salitreras;* Pisagua, Junin, Iquique (not long ago the greatest exporter of nitrate, but yielding pride of place to Antofagasta), Caleta Buena, Tocopilla, Mejillones, also overshadowed today by her younger sister, big, well-served, thriving Antofagasta; Coloso, Paposo, Taltal — all lie baking in the bright aridity of the rainless belt, precariously supplied with food and water from afar. Inland there are no populations more permanent than those of the nitrate *oficinas,* save here and there along the beds of snow-fed streams. Next in order from north to south comes the string of copper ports, with interior towns beginning to appear as the edge of the permanently fertile lands is reached. Chañaral, Caldera, Carrizal, points where the famous "Chile bars" of copper were smelted and shipped overseas; inland Copiapó, dependent for wealth upon copper and silver mines, but clothed with all the charm of a clover-edged oasis in the desert; the houses are built low for fear of earthquakes, roofed with red tiles and washed pink and blue; the gardens are full of scented flowers. Another oasis is Vallenar, set in the Atacama desert beside its violet-shadowed ravine and surrounded with a little ring of jade fields.

Still farther south, Coquimbo, a newer, busy little city, sweetly placed upon its beautiful curving bay a mile or two from its Spanish-built, slumbering elder sister La Serena. From this point southward the

towns lie closer together, and eastward along each fertile valley are clusters of fine fruit farms with dependent villages, filling the railway cars with figs and peaches, grapes and apricots; but where water fails, scrub and cactus deny a living. Here is old Combarbala, there Illapel with its town-long avenue of orange trees hung with golden globes; Santa Rosa de los Andes, high-road to the chief mountain crossing; and a number of centres of the lovely grape country, younger sisters of San Felipe. Santiago, spread beneath her two famous hills, Santa Lucia and San Cristobal; Valparaiso, risen from the earthquake of 1906, solidly built on its narrow stretch of sand beneath the thousand-foot cliffs, crowned with new dwellings and reached by electric lifts, an energetic and wealthy port with its brilliant suburb, Viña del Mar. Beyond these

Santa Lucia Hill, Santiago.
Parque Forestal, Santiago.
Municipal *Offices,* Santiago.

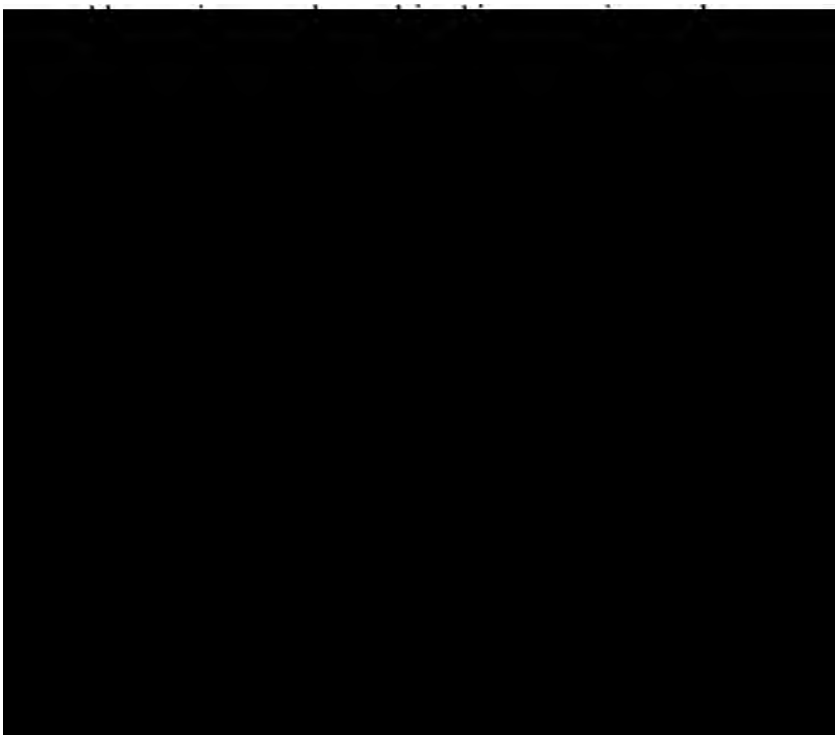
Arenas is not only a new city of Yugo-Slav and Scots millionaires, of the tributary sheep-raising country: it is the commercial key of Chile's Far South.

The majority of these towns are more than convenient centres for crowding populations; they owe their existence to special and widely divergent causes that have also formed the character of the people. To certain circumstances in Chilean history can be ascribed a powerful part in making the Chilean — the disappearance of the Indian as a worker, and consequent self-dependence; the great rise of the nitrate industry, and the creation of national wealth and great private fortunes; and the enlargement of the national horizon by war. But the effect of different regions and their calls upon resources have been and are still equally important. Much of the spirit of the Chilean is due to the independent life of the mineral-hunter of the north, solitary, even-tempered, enduring, deeply attached to the soil. The day of this class of miner has departed almost as definitely as that of the cunning craftsmen who, in colonial days, fashioned in copper or silver all domestic utensils of Chilean homes: but his influence lives. Marked also is the influence of the skilled horseman, the woodsman, the man of the camp who knows how to kill and cook his food, how to cross mountain passes or trackless forest or unbridged stream; the far-flung Chilean cities bear the stamp of the Chilean character created by these special circumstances, and generalisations must be made and received with this fact in mind.

The Santiaguino, occupied in finance, law, politics or trade, is addicted to cheery club life, is a country and garden lover, and has a keen understanding and affection for horses; his characteristics bring him readily into sympathetic touch with the British, allied by

many blood-ties. He is famed as a charming host, a genial welcomer of the stranger, and there is no city in the world where the visitor will be more agreeably interviewed by an acute press, more quickly and spontaneously greeted and made at home than by the frank and kindly Chilean family.

The dweller in Santiago and Valparaiso possesses a marked characteristic rare in any part of Latin America: he is a born speculator and financier, and is an active attendant and operator upon the local Bolsa (Stock Exchange). In some of the smaller and less developed states of Spanish America the Stock Exchange is non-existent or negligible: but in Chile the Bolsa is thronged daily, and the operations are active, eager, and dictated by a highly intelligent appreciation of the market conditions of the world. The ca-



workman in general is a *roto*. He has fine qualities of hardihood, loyalty and endurance; and although he has sometimes had a repute for free use of the *corvo*, the deadly curved knife in whose use he has an extraordinary facility, it is only upon too-festive occasions or during jealous quarrels that he is apt to give way to passion. The measures taken by the Government and by large employers of workmen in industries or mines to stop the traffic in the worst forms of liquor, and to substitute the light and innocuous Chilean wines, has lessened these troubles during recent years, and it is true of Chile as of most parts of South America that there is no organised crime. Cases of theft are common, but are ascribed mainly to the lower class of South European who comes to Chile for work and forms a part of the shifting population moving from camp to camp. Chile's *Ley de Residencia*, by which criminals are deported from the scene of discovered ill-deeds to another part of the coast, means very often that the north and south exchange ne'er-do-wells.

It is partly due to this perhaps too kindly system that Chile has suffered considerably from strikes during the past few years. The entry of malcontents bringing the flag and doctrines of the I. W. W. created trouble in the coal mines of the south, the copper camps and the nitrate fields of the north, and the ingenuous character of the native-born lends itself to the ready acceptance of specious theories. I have seen the flag of the Californian-bred Industrial Workers of the World paraded in Santiago, while such "red" periodicals as *El Socialista* of Antofagasta spread a hash-up of violent and hysterical propaganda, a medley of Marxian and Bolshevik ideas, amongst railway and port workmen. The women, always an element to be reckoned with in Chile, were brought into the Antofagasta railway strike

in 1919, and when the first strike-breaking train was run out of the port, the wives of the strikers laid themselves down on the tracks in a theatrical attempt obviously instigated by the practised foreign agitator.

The radical administration of Señor Arturo Alessandri, with its avowed sympathy with the workers, was able to counteract the pernicious influence of the exterior trouble-maker as, perhaps, a more conservative government could not; and the firmness with which, in late 1921, the President dealt with an attempted tie-up of Valparaiso port, declaring his intention of redressing any genuine grievances but at the same time making clear his determination that the work of the port should not be interfered with, has been salutary. The powerful Workman's Federation (Federación de Obreros) of Chile has done much good work, and is

Bull-fighting was never a Chilean pastime; a fine breed of game-cocks was introduced about the middle of last century (through the gifts of the celebrated Lord Derby, who responded to the petition of a sporting Chilean priest) and has had a marked effect upon country strains, but in its most popular day cock-fighting was never to Chile what it is to Cuba. The whole national tendency is towards out-of-door games and sport: the Chilean is a wonderful rider, has bred an extremely fine type of small horses, is a good polo player, and owes much of his sturdy health to the national habit of horsemanship.

Chile has no noxious insects, with the exception of one venomous spider; and she has no poisonous snakes or reptiles. But she is rich in strange and beautiful birds, many singing with exquisite sweetness.

Large animals indigenous to the country are rare, although all European domesticated animals, as horses, cattle, hogs and sheep, thrive splendidly; a few forest deer are still found; the guanaco lives in the more remote uplands and cold south, and there are jaguars in the woodland.

Among plants, Chile's special gift to the world has been the potato, invaluable to millions of households today. Different varieties of *Solanum tuberosum* are found wild on the West Coast of South America all the way from South Chile to Colombia, growing in Chile from Magallanes to Arica, both near the seashore and in the foothills of the Andes. The potato has a wide native habitat, and it was and is as useful to the indigenous folk of Chile, Bolivia and Peru as to Western Europe today. Of other foods, the mealy, chestnut-like kernel of the *Araucaria Chiliensis* is eaten only in the country, as in the case of its cousin, the kernel of

Araucaria Brasilensis. The strawberry, *Fragaria Chiloensis*, appears to be wild in south Chile, with a number of small sweet berries of the myrtle and berberis tribes.

Quantities of beautiful flowers and plants, herbs and shrubs, are native to Chile and found wild only in this belt. Of them, none is more striking and lovely than the *Copihue*, the rosy bell of a slim vine clinging to trees in the southern woodland; the flaming *Tropæolum speciosa* is a bright mantle of the hedgerows, the brilliant blue crocus (*Tecophilea*) lies in sheets on Andean foothills, the turquoise and golden *Puyas* are striking features of many a Chilean landscape, and the lovely *Eucryphias* are shrubs as beautiful as the Fire Bush (*Embothrium coccineum*).

But of all Chilean offerings, none has been of more

Viña del Mar, Valparaiso's Residential Suburb.
Valparaiso Street, Viña del Mar.

Race Course, Viña del Mar.
Mira-Mar Beach, Viña del Mar.

region troubles the West Coast is a striking illustration of the result of leaving territorial questions unsettled, for no equal shadow is cast by the provinces definitely added to Chilean soil, the valuable Tarapacá and Antofagasta.

Not only Chile and Peru are involved in the Tacna dispute: the question of renewed access to the sea by Bolivia lends that country a lively interest in settlement, and, in addition, every South American country is concerned in the amicable resolution of a domestic problem affecting the present credit and future peace of the continent. Nor can the nationals of overseas countries investing in or trading with the West Coast remain indifferent; when, in 1922, discussions were opened in Washington between the representatives of Chile and Peru, all friends of South America hoped for a happy result from these new and direct conversations, in a region far removed from the acute feeling of the Pacific Coast.

The whole story of the Tacna question is discussed in detail in other pages.[1]

[1] Chapter VI.

CHAPTER II

CHILEAN HISTORY

Inca Rule and Native Chiefs. — Spani
riod. — The Fight for Independenc
Chile.

NEITHER in her deep woodlands nor
plains does Chile possess monuments of
tion. The foundations of her flourishing
no farther than 400 years at the most;
crafts of daily life are based upon impc
owning no native origin. As a settled, b
country, Chile is for the main part genui

The old races of the south, whether non
the interior or fisherfolk of the coast a
waterways, built no towns, constructe
nothing that serves today as a memorial;
in caves, chipped spear and arrow heads,
fish-hooks, remain as the only evidence
past generations, the only witnesses by v
dition of their present descendants can
Farther north, where Inca culture penetr
ruins of dwellings as those of Calama, wi
sites. Traces of

one hundred years before the Spanish conquest. Peruvian records yielding the only historical accounts of events in Chile prior to Almagro's expedition.

A friendly connection between the Peruvian empire and the settled tribes of the Chilean north seems to have been of old standing, a tradition confirmed by the evidence of burial grounds. Upon the authority of the historian Montesinos, the Inca Yahuar Huaccac gave a daughter and a niece in marriage to two chiefs of Chile; these two princesses came later, with their children, to visit Peru, their uncle Viracocha being then Inca. A revolt took place during their absence, and the family was only reinstated by the might of the Inca, and under his tutelage. It was, however, the Inca Pachacuti who began the definite explorations and conquests that, continued by his son Tupac Yupanqui and his grandson Huayna Ccapac, increased the Inca dominion to a great empire extending from the Ancasmayu River, north of Quito, to the banks of the Maule in Chile.

Tupac Yupanqui (1439–73) conquered the Antis,[1] people of the Collao, and from Charcas decided to go farther south. He entered Chile, defeated the powerful Sinchi (chieftain) Michimalongo and later Tangalongo, the latter ruling country down to the Maule. Here the same fierce tribes who afterwards resisted the finest Spanish troops opposed him, and after setting up frontier columns, or walls, as a mark of conquest on the river banks, the Inca returned to Cuzco via Coquimbo. From this time Chile was officially organised. Quechua-speaking colonists (*mitimaes*) were sent here as throughout all the rest of the thousand leagues of Inca territory, registering the population and imposing tributes of

[1] From which name the word Andes, in whose lower folds the Antis dwelt, was probably derived.

... energetically carried
Inca, Huayna Ccapac, and it was d
that the Peruvians constructed the gr
astonished, and aided, the Spaniards
transport system and the success of tl
pacifying districts by the simple metho
the original population where disaff
pected, replacing them with settlers f
the whole meticulous paternalism of tl
regulating every part of the social f
cradle to the grave so thoroughly that
stifled, rendered easy the task of the inva
He did no more than step into Inca shoes;
subjects received the change of master
apathy.

That careful observer Cieza de Leon,
1532–50, leaves a precise account of the I
ran south from Cuzco both along the si
throughout the coastal border. The h
made, he says, fifteen feet wide in the
strong wall on either side, the whole spa
with cement and shaded with trees. "
many places, spread their branches, lad
over the road and many birds flutter
leaves." Resthouses

says that "broad embankments were made on either side," and all early travellers in Inca territory agree that these lost highways were extremely well made. He adds that the posts in the desert were connected with stout cords, but that even in his day the Spaniards had destroyed many of the posts, using them for making fires. The road of the coast, like that of the sierra, was 1500 miles long; and of Chilean traces any traveller through the Atacama copper regions may see a survival at the station of "Camino del Inca," where the modern railway cuts across the ancient road.

Along the Sierra highway came, in 1535, the first Spaniard to set foot in Chile, Diego de Almagro. He was not the first European to explore Chilean territory, for the Portuguese Fernão de Magalhães had discovered the Strait bearing his name in 1520; but he was the pioneer explorer by land. The name Chile is a native word which was probably the appellation of a (pre-Spanish) local chief; it was the name by which the Incas designated that part of the country under their control, and it persisted in spite of Valdivia's later attempt to call it "Nueva Estramadura," just as "Mejico" and "Cuba" survived and "Nueva España" and "Española" faded out. It has been frequently but mistakenly said that the word Chile actually does mean "chilly" in the Quechua tongue; as a matter of fact the Quechua word meaning "cold" is *chiri*. In early Spanish times the name Chile applied only to part of the central valley with "Copayapu" in the extreme north, "Coquimpu" just below it, and the central region partly ascribed to "Canconicagua." But the name Chile was simple and was so quickly adopted that Almagro's adherents were soon politically grouped as "los de Chile" — the men of Chile, and when the country was definitely colonised the name was extended

conquest of
between the Pizarro brothers and th
tador, the old Adelantado Diego d
Pizarros wanted to retain rich Cuz
was an inconvenient claimant; the
of the Incas, today a grievous sight
modern buildings superimposed upon t
walls of the Incas, was already a sm
ruin; but it had yielded so much trea
probably impossible for the conquista
search for other golden cities. Mex
Peru, and the Chibcha Kingdom, had f
succession, and it is not surprising tha
spoke of the riches of the south, Almagr
years old, should be ready to march i
magro had a commission from Charle
and rule over 200 leagues of land sout
Pizarro's territory (New Castille); it w
Nueva Toledo. At about the same tim
was given to the ill-fated Alcazaba of
land, commencing at the southern bounda
territory, under the name of Nueva Leo

Almagro set out with over 500 Spani
Peruvian Indians, after spending 50c
equipment. He marched

Cuzco in early 1534 by Pizarro, probably with the double object of quieting Peru and to obviate charges made by his personal enemies in Spain. Both Charles V and the Pope emphasised their possession of tender consciences with regard to native American rulers. This young scion of the Incas survived the expedition into Chile, and was with Almagro's son at the battle of Chupas.

Terrible sufferings were experienced by the expedition in the bitterly cold Andes, where deep snow and cruel winds killed the Peruvians by thousands. Many of the Spanish soldiers too were frozen to death, and food supplies failed. When at last they turned west an advance party of horsemen went ahead to bring food, cheerfully yielded by the settled natives, to their starving and exhausted comrades. Arriving in the green Copiapó valley, Almagro was well received at first, but pressing his search for gold to extremes, quarrels arose, the natives were "punished," and Almagro moved on, after receiving reinforcements brought by Orgoñez. A strong party was sent forward to report on southerly conditions, and marched as far as the Rio Claro (tributary of the Maule) where savage Indians confronted the outposts of the old Inca empire. When Almagro heard this report, and realised that neither treasures of gold nor rich cities existed, he decided to return to Cuzco, making his way back by the coastal road and traversing the scorching, waterless deserts of Atacama and Tarapacá. At his arrival in Arequipa at the end of 1536 he had lost 10,000 Indians and 156 Spaniards. The rest of Almagro's story — the news of the Peruvian revolt, his seizure of Cuzco, and his execution at the age of seventy-five by Hernando Pizarro, when fortune finally deserted him — belongs to the history of Peru. The fact that a man had made the Chilean journey

with Almagro was considered, later on, as a claim upon royal consideration. The petition of Diego de Pantoja, in 1561, makes this point, while that of Encinas, 1558, is even more emphatic in speaking of the sufferings of the soldiers; he went south, he says, with Captain Gomez de Alvarado, fighting Indians of the "Picones, Pomamaucaes, Maule and Itata" and traversing painfully "snow and water, swamps, creeks, crossing rivers by swimming or on rafts" and with no food but wild herbs. For the moment the efforts of the Europeans were without result; during another two years Chile remained in the hands of her native rulers.

Spanish Colonial Period

There was no actual conquest of Chile by the Span-

arro, and a man of formed and resolute character, ıted to increase his fortune, consisting of an estate r Cuzco. He obtained without difficulty from Fran-ıo Pizarro a commission to open up Chile, a land of ır repute since the return of Almagro; his appoint-ıt was that of Lieutenant Governor. His chief iculty was in raising men, for as he says in a letter tten in 1545 to Charles V, those who turned most n the project were the soldiers who had accompanied ıagro on the first unfortunate journey, when 1,500,- pesos were spent "with, as the only fruit, the re-ıbled defiance of the Indians."

He set out at the beginning of 1540, however, with rly 200 Spaniards and 1000 Peruvian Indians, and iding the Andes traversed the coastal deserts, ar-ıg in the valley of the Mapocho at the end of the e year. On the eve of departure a blow to his hopes atened in the arrival of Sanchez de la Hoz, armed a royal commission for the settlement of Chile; Valdivia, equal to the occasion, induced his rival ovide a couple of ships, equip a force with fifty s, supplies, arms, etc., and agreed to meet him at ıll port just north of the Atacama desert. The ıtment was kept, but as soon as the new arrival ıshore Valdivia arrested him, made him sign a iation of his claims to leadership and henceforth him to serve as a common soldier. Eventually z de la Hoz joined a conspiracy against Valdivia, ıovered, and was beheaded in Santiago de Chile. bruary, 1541, Valdivia founded Santiago "de Estremadura," Valdivia naming his province remadura in Spain, where he was born in the a Serena. The colony had a hard struggle for the Indians attacking the fortifications of ia hill, where the settlers built the first houses

...ough great neces
roots, having no meat, and the man w
grains of maize each day counted hi
He says also that they got a little gold,
the first praises, so often repeated subs
enchanting climate. For people who
permanently, there is no better land in
Chile, he declares; there is good le
healthy and pleasing, and the winter
months. In summer the climate is deli
are able to walk without danger in the
fields give abundant returns, and cattle

Live stock, in fact, throve so well that
five years of the settlement the Indian
possessed flocks and herds, and, learn
Europeans, went mounted on horseback

Needing men and supplies, early in
sent six Spaniards by land to Peru. Ca
piapó Indians, the Captain Monroy and a
Miranda escaped by an act of treach
friendly Indian woman, and arrived sa
after a terrible journey through the des
cajole Peru into giving help, Valdivia h
with stirrups and bits made of gold, a d
cessful that by the ...

and besieged the little settlement of Santiago. It was here that Inez Suarez, who had followed Valdivia from Cuzco, rendered her name immortal by her active defence of the fort. Tradition says that she cut off with her own hands the heads of six Indian chieftain prisoners and threw them over the palisades to intimidate the attackers. Valdivia returned from the Maule, where he had received a check, and reestablished his colony. He had founded La Serena as a check on the northern Indians and a post on the road to Cuzco. Now he saw that stronger assistance was needed to colonise and hold Chile, and returned to Peru for more men in 1547. The country was in civil war, with Gonzalo Pizarro ranged against Gasca, President of the Audience of Peru. Valdivia adhered to the royal appointee. His aid was an invaluable aid with its experience of Indian wars, and helped turn the scale, causing the rout of Pizarro supporter, Carbajal, prisoner. He got his reward when he received formal appointment as Governor of Chile, in 1548. With a large force of well-equipped men he started out anew, was stopped on the Atacama border with orders to return to stand a trial on certain technical charges, was acquitted, set out again, and reached Santiago in April, 1549. He found that the Serena settlement had been destroyed, rebuilt it, and made an agreement of peace with the northern Indians that was never again broken.

With the central and northern districts secure, Valdivia turned his face south again, prepared a strong expedition and set out in January, 1550. He was checked at the Bio-Bio River, fought for a year in that region, attempting a settlement at Tucapiano, and built a constantly attacked fort at Concepcion, where the present Penco stands on a beautiful curve of coast. In February, 1551, he went on, leaving fifty men in

...ited, on the edge of Lake Lauquen;
site Chiloé Island some eighty miles in
Puren, and Angol, "la Ciudad de los Infa
between Tucapel and the sea.

The fierce Araucanian Indians determi
every settlement of the invader, and, the
nomads, were well fitted for the work o
tack. The leaders Caupolican and the y
— the latter trained in Spanish ways and
some years of service as a groom of Val
up, organised their people, adopting ce
military methods, and began a series of
systematic raids of destruction. Upor
savage cruelties were practised, and fr
began to date the deliberate seizure of
and children by the Indians. The courag
many Spanish wives accompanied their
not save them from the huts of the wild na
children borne in course of time of Indi
European mothers were so numerous
tribes became noted for their fair skins, pi
blue eyes.

In 1553, in attempting to stem the t
canian attacks on the frail forts, of which
Arauco ...

But he was impelled by false stories of gold to be found in the south, by hope of extending the territory under his jurisdiction for the Spanish crown, and no doubt also held the belief, based upon former experiences, that definite submission of the South American natives could be commanded by vigorous action. This idea had been proved correct with regard to all settled districts, but it did not apply to the elusive Mapuches. Nevertheless it was persisted in for a long time, costing a river of Spanish blood and an immense treasure in Spanish gold.

Flushed with success after the death of Valdivia, the Indians attacked all the forts simultaneously; Concepción was twice ruined and restored, in 1554 and 1555, and again smashed when Francisco de Villagra, successor of Valdivia temporarily, was trapped on the seashore after crossing the Bio-Bio and badly defeated. He redeemed his lost prestige when he broke the armies of Lautaro and killed this leader at Santiago soon afterwards, the Araucanians, emboldened, having ranged outside their own territory to attack the invading Europeans.

In 1557 there came to Chile as Governor the young Garcia Hurtado de Mendoza, son of the Marquis de Cañete, Viceroy of Peru. He brought from Spain a well-equipped force of 600 Spaniards, and, arriving at Concepción from the sea, rebuilt the stronghold, mounted guns for the first time, restored all the southerly forts, and in the course of fierce battles in 1558 took prisoner and killed Caupolican.

When Garcia Hurtado left Chile in 1560 the Indians took heart and renewed attacks, and the anxious rule of Quiroga, with another interval of Villagra's control, was concerned almost exclusively with Indian troubles. Quiroga, a determined man, was the first Spaniard to

possession of Chiloé, founding the town of Castro; rried war into Araucanian territory relentlessly, ing every able-bodied Indian he could catch to the s of Peru. But his experience, and that of his ssors, was that the natives were never more than entarily beaten, that they rose behind him when oops passed from one region to another, and that st any fort could be overwhelmed by the extraor- y numbers that the savage chiefs brought into ield. The tactics of the Araucanians upon the efield, of attacking in great numbers, but keeping enormous quantities of men who came forward the first army was rolled back by Spanish guns, disheartening; every settlement remained in a ant state of siege, perpetually harassed.

1567 Philip II of Spain authorized the establish- of a Royal Audience in Concepción; it endured 1574, but was then suppressed owing to the inse- of the colony. A year later the struggling settle-

it was pre-eminently an agricultural and stock-raising country, and therefore a poor one compared with such regions as Peru with its golden treasure or Charcas (Alto Peru) with its tremendous production of silver from the wonderful mines of Potosí. That in the face of all hardships and difficulties the colonisation of Central Chile steadily extended is a standing tribute to the courage of the settlers, as well as to the attractions of an exhilarating climate.

In 1583 came Alonso de Sotomayor, Marques de Villa Hermosa, setting out with Sarmiento and a splendid Spanish fleet of twenty-three ships; the original intention to pass through the Strait of Magellan was abandoned, and Sotomayor with a strong army marched overland from Buenos Aires. He too wasted lives and treasure in attempting to subdue the south, but inevitably the Indians rose behind his forces, burning forts and destroying the guard ships he placed upon the Bio-Bio River. By the time that Martin Garcia Oñez de Loyola succeeded to the Governorship in 1592 the endless wars with the Araucanians had become bitterly unpopular; the Indians had gathered new audacity under the *toqui* (leader in war) Paillamacu, and with him Oñez tried to make a treaty. Hope was also placed in the pacifying influence of Jesuits, who entered in 1593, but these first missionaries were killed, and an armed force sent south in 1598 was wiped out, the Governor Oñez being amongst the slain. Paillamacu, jubilant, besieged all the forts at once, and Spanish rule was further threatened by the appearance in the Pacific of Dutch corsairs. The Cordes expedition of 1600 landed on Chiloé, sacked and held Castro. A Spanish force under Ocampo took back the town, but Spanish prestige suffered by the Indians' realisation of quarrels among white men. Ocampo also raised the siege of

and Imperial, but carried away settlers and loned these places. Forts upon the sea border, igh safer than inland points, were not impreg- and the Araucanians had grown so bold that more nce when Spanish vessels visiting the seaports ran nd the Indians swam out, killed the crew and the ships in plain view of the settlers.

the beginning of the seventeenth century, with n as Governor, it was practically decided to t Spanish occupation of the territory south of the io River to seaports, and to maintain a line of upon the frontier. For about 100 years 2000 sh troops were maintained for defensive purposes, y distributed throughout fourteen frontier strong- of which the chief were Arauco, Santa Juana, , Los Angeles, Tucapel and Yumbel, and in Con- n and Valdivia. Chilean revenues were insuffi- for these army expenses, and Lima contributed 00 pesos, for Valparaiso, Concepción and the fron-

diction including the territory from the desert of Atacama, where Peru ended, to all the southern country he could control (the Taitao peninsula was explored in 1618) and also the province of Cuyo, extending across the Andes and embracing the city of Mendoza on the post-road to Buenos Aires.

Pirates harassed the authorities in 1616, when Le Maire found the small strait bearing his name; in 1623, when L'Hermite, with thirteen ships and 1600 men, troubled the coasts; and notably by the Dutchman Brouwer in 1644, when Valdivia was seized and three strong forts built by the invaders. The death of Brouwer, three months after his arrival, disheartened the strong force of Dutch under his control; the region was also discovered to be less promising of easy wealth than had been imagined and the place was given up. The Spanish returned in 1645, occupying and completing the excellent fortifications of the Dutch.

A terrible battle with Indians near Chillan ending with the defeat of a new Araucanian leader, Putapichion, with great slaughter, the then Governor of Chile, Francisco de Zuñiga, Marques de Baides, attempted to make a definite peace, holding the celebrated first "Parliament of Quillin" in 1641; the second Parliament of Quillin was held in 1647, with reiterated understanding that the Araucanians were to be recognised as owners of independent territory south of the Bio-Bio, but not to invade territory to the north. A third peace meeting was held in 1650 and thenceforth it became customary for each new Governor of Chile to call a meeting at the Bio-Bio border, where he repaired in state, met thousands of Araucanians, feasted them for several days and gave presents, with mutual compliments and speech-making. None of these friendly conclaves, however, prevented the Spaniards from raid-

converted and friendly, to
the Maule and Bio-Bio Rivers; 400 f
Concepción besieged, and enormous qu
women and children taken to Araucar

Nevertheless, outside the troubled
pered; the Spanish colony grew from
Indians and 300 Negroes) in 1613 to
Vineyards and olive groves were plant
Chile becoming so famous that it was
way to Panama, Mexico and Central A
guay and Argentina. The Governor J
a native of Lima, was responsible for
agricultural encouragement, and for co
bridge over the Mapocho River and of a
spring water to Santiago. It was this
who shipped hundreds of Araucanians as
and sent to Lima for execution the you
of Narborough's scientific expedition,
captured at Corral in December, 1670.
the coast forts had been rebuilt, partly
anxiety regarding the activities of adv
of rival nations, which, forbidden lawful
the Pacific as corsairs and smugglers.
Captain Bartholomew Sharp, with one
men, terrorized

the live volcanos of the Andean backbone broke out from time to time, and in many cases the overthrow of dwellings by *temblores* and *terremotos* was accompanied at the unfortunate coastal settlements by furious onslaughts of tidal waves, when numbers of people were drowned. Santiago was badly damaged by the earthquake of 1642, but suffered worse in 1647; ten years later a terrible earthquake and tidal wave destroyed Concepción on its original site where Penco village stands today, and the city was later moved to its present situation on the north of the green-wooded, silver Bio-Bio, with its banks of black volcanic sand.

In 1700 the Spanish were able to regard the danger of active aggression on the part of the Dutch without alarm. Spain had preserved the integrity of her enormous American colonies in the teeth of an array of energetic rivals, sea-adventuring people with vigorous populations lacking space for new settlements, sharing the most jealously guarded regions of South America with but one country, Portugal. For sixty years, indeed, after the tragic death of Sebastião at El Kebir in 1578, Spain held Portugal and Portugal's splendid colonies abroad, including Brazil; until 1640 the Kings of Spain were absolute masters of South America. The long-continued struggle with England and its constant threat to the colonies was one reason why Spain reluctantly made concessions from time to time in her dealings with Holland, a country openly displaying a keen desire to share in American profits. The formation of the Dutch West Indian Company, with comprehensive plans for settlement as well as for trade, received strong government backing, and the forcible occupation of the Brazilian coast region of Pernambuco between 1624 and 1654 caused great anxiety to Spain. Nevertheless, a commercial agreement for the supply

of indispensable Negro slaves, brought from the Portuguese colonies of West Africa, endured until Holland's sea power was definitely affected by reverses at the hands of the English.

A sign of change of influence which had a significant and lasting effect upon the South American Pacific Coast was displayed when early in the eighteenth century Louis XIV of France induced Philip V of Spain to give to French traders the right to supply slaves to the American colonies in place of the Dutch. A certain amount of general commerce could not be denied to vessels bringing slaves, and presently limited agreements were made by which two French companies were allowed to do business with South America. The monopolist companies of Seville and Cadiz, crying ruin, protested vainly, for viceroys and governors as well as

devoted Father Nyel, thought that the supreme reward for a laborious life spent among wild natives was to be killed — "meriting reception of the crown of martyrdom as the worthy recompense of apostolic work." Father Nyel wrote, in 1705, when he was planning the establishment of a mission among the Araucanians, that in spite of having murdered the noble Father Nicolas Mascardi thirty years previously the Indians begged for Jesuits to enter their land again to instruct them. But in order to succeed with these people it was necessary to have "a strong constitution, complete indifference to all the comforts of life, a persuasive gentleness, strength, courage, and determination in spite of insurmountable difficulties encountered amidst a barbarous people."

The most distinguished of the scientists who were, perhaps somewhat grudgingly, given leave to enter the Spanish colonies were the French Academicians, headed by La Condamine, who came to Ecuador in 1735 to measure an arc of the meridian upon the Equator, and whose Spanish associates, sent by Madrid, made a detailed, frank and brilliant report of the condition of Peru, Ecuador and Chile. The *Noticias Secretas* handed to the King upon their return are extremely illuminating, especially in the light of the events of eighty years later, when the irritation which they observed between "creoles" (native-born Americans of European blood) and Spaniards from the Peninsula came to a head. The voyage of Juan and Ulloa, the accounts of Frezier, Feuillée and the Jesuits, were as eagerly read in Europe as the biographies of the corsairs, for whatever official reports were made by Spanish officials from Spanish America never saw daylight, strangers were forbidden to enter, and in consequence South America had the magic of the unknown.

CHILE: TODAY AND TOMORROW

By the middle of the eighteenth century Chile was
l a small country, settled chiefly between Coquimbo
d Concepción, yielding a little gold and silver from
face veins, but with her greatest activity in connec-
n with agriculture; she was spared the feverish ex-
ements and reactions of wealthier countries. Most
her trade was conducted by land, over the Andes into
gentina, with a brisk exchange of Chilean woollen
nchos, honey, hams and lard for *yerba maté* from
raguay and European goods imported at Buenos
es; to Peru was shipped wheat and wine and beef
pork fat (*grasa*), exchanged for cargoes of *aji* (red
pper) from Arica and silver from Potosí.

Commerce with the Araucanians, eager buyers of
rdware, metal implements and ornaments in exchange
guanaco skins and cattle, went on in spite of the mis-
st engendered by the events of 1723, when a general
ng of the Indians took place, the settled villages
converts created by the Jesuit missionaries were

ing their period of punishment, and the garrisons were maintained by Spanish and Peruvian Indian soldiers. Concepción was not only a Spanish stronghold, but a genuine agricultural colony, its splendid soil and enchanting climate, bright, balmy and temperate, bringing the settler who forms the backbone of Chilean society. Valparaiso was nothing but a shabby port, lacking a custom-house, all goods being shipped by mule-back to Santiago, ninety miles inland, or rather, 120 miles by the Zapata pass and Pudahuel, the only road then existing. It was fairly well defended by upper and lower forts overlooking the curve on the bay's south where the houses of Valparaiso lay along a narrow strip of beach. Santiago was a well-built city, the centre of a fortunate agricultural and pastoral region; northwards lay but one settlement of note, La Serena (Coquimbo), with Copiapó, a prosperous silver mining centre, farther north.

The changes affecting Spanish America were not limited to the entry of the French. Philip V, to induce Queen Anne of England to sign the Peace of Utrecht, agreed to give the right of supplying slaves (*asiento*) to the South Sea Company, for thirty years, from 1713 to 1743; by this agreement 4800 Negroes were to be annually taken to the Plate, and as a further and extraordinary concession the company was allowed to send one ship each year to the Porto Bello fair (below Panama, on the Atlantic coast). At the same time a peremptory stop was put to the overseas commerce of the French, who had been allowed by Louis XIV during the War of the Spanish Succession to trade from St. Malo to the American colonies of Spain, herself too much involved to aid them with supplies.

The war of 1739 between England and Spain put an

... Buenos Aires carrying on fc
1752) the transportation of African
time a group of Spanish merchants t
It was in 1748 that Spain, finding h
the colonies greatly reduced by home
more or less legitimate efforts of other
15,000 or even 25,000 tons of shipp
each year under convoy across the Atl
yearly visits of the famous galleons a
warships. This fleet had sailed annua
A system of unguarded merchant boa
ships sailing for the Plate six times a y

In 1774 the rules forbidding the Sp
colonies to trade with each other w
Charles III, and the effect of this is ill
figures of Spanish merchant shipping
Americas in 1778, the year of the erecti
alty in Buenos Aires, the fourth of Sp
no less than 170 vessels sailed, as ag
fifteen in the days of the yearly fleet of j
vessels.

In 1785 there was further relaxation,
Spain and all the ports of Spanish Ar
lowed to trade mutually, and as oth
ideas there

Reproductions from Gay's "History of Chile" (1854)

Más a Tierra (Juan Fernández Group) in the 18th Century.
Capturing Condors in the Chilean Andes.

O'Higgins' Parliament with the Araucanian Indians, March, 1793.
Guanacos on the Edge of Laja Lake.

himself in the Araucanian wars, was made a colonel, and in 1788 was nominated to the Chilean captain-generalship by Teodoro de Croix, the Viceroy of Peru, a native of Lille. The name of Ambrose O'Higgins is as much respected in Chile today as that of his son, Bernardo, born in Chillan, who became Supreme Director during the early days of Chilean independence.

Governor O'Higgins called the Parliament of Negrete with the Araucanians, and set about the improvement of Chile; found and rebuilt the ruins of Osorno fort, and made a road from Osorno to Valdivia; another highway from Valparaiso to Santiago; and a third from Santiago to Mendoza. He constructed bridges, notably over the turbulent Mapocho River, and his good Chilean work only ceased when he was created Viceroy of Peru, with the title of Marquis of Osorno. He remained in that post until his death in 1801. A spurt in town foundation during the eighteenth century also bears witness to the growing prosperity of Chile. Between 1736 and 1746 the courtly and wideawake governor Don José Manso de Velasco, Conde de Superunda, founded San Felipe, Melipilla, Rancagua and Cauquenes; the same official encouraged the operation of mines, making cannon for the defence of one of the Concepción forts from local copper, and reopening gold mines at Tiltil (between Santiago and Valparaiso) and developing the copper works of Coquimbo and of Copiapó. His successor, Don Domingo Ortiz, founded Huasco and Curicó, built the University of Santiago and began the Mint, completed during the régime of Don Luis Muñoz between 1802 and 1807. The plans, tradition says, were mixed with those for Lima, and by mistake Chile received authority for a much more splendid building than was intended for her, La Moneda still serving as Government offices in Santiago.

South American thought than the Fre
for with North America the South wa
There was little commerce, and the lar
was a bar, while French literature anc
ments were extremely influential. Tl
Encyclopedists fell upon fertile soil.

When Napoleon conquered Spain, put
Joseph Buonaparte upon the royal thro
bons and driving Ferdinand VII into e
little thought upon the West Coast of
as an opportune time for seizing freedo
the action of Mexico and Buenos Air
road of independence, Peru and Chile
disloyalty and declared their intention
the king when he should be again upo
throne. The grievances against Spair
much was afterwards heard were not r
majority of the populace, and in fact th
well aware that from narrow trading po
tation of officials, sumptuary laws, and th
although waning burden of the Inquisiti
fered even more acutely than her overs
The rights of *mayorazgo*, that is the prese
for generation after generation of

seems to have been the tangible annoyance of the stream from the Peninsula, both of officials and merchants or adventurers. Don Antonio Ulloa, writing the "Noticias Secretas" for the King's eye in 1735, noted that the big towns were "theatres of discord between Spanish and creoles. . . . It is enough for a man to be a European or *chapeton* to be at once opposed to the creoles, and sufficient to have been born in the Indies to hate Europeans. This ill-will is raised to so high a grade that in some respects it exceeds the open hatred with which two nations at war abuse and insult each other." He thought the feeling tended to increase rather than to diminish, and notes that it was more bitter in the interior and mountainous regions, because the coast people were bent to a more liberal spirit by their dependence upon commerce with strangers, had more work to do and something else to think about. He gave as reasons for the mutual dislike, first, the "vanity and presumption" of the creoles; and next, the wretched condition in which many poor Europeans usually arrived in the Indies. The native-born were lazy, thought the Spanish officer, and envied the industrious and intelligent Spaniard the fortune which he presently made. The succession of Peninsular officials to many posts in the colonies was not without its influence in providing grievances also, but as a matter of fact a number of minor berths were frequently filled by the native-born, who also became Inquisitors and clerics, the list of viceroys and governors also providing a few colonial names, and a large number of American-born receiving good positions in Spain. But on the whole the colonies were necessarily still dependent upon Spain for blood, ideas, intercourse with the world, and, but for Napoleon, independence would have been long delayed.

...ugened into rebellion, and w
stirred had they lacked a leader inc
grandiose vision.

But here again the quite accidental fig
intervened. It happened that both S
Bolívar, the two most powerful instrume
American Revolution, were actual wi
umphal ceremonies of the Napoleonic ar
when Simón Bolívar saw the Corsican en
head of magnificent conquering troops, g
the hysteric adulation due to a second
immediate fate of Spain's South America
sealed. It is easy to understand that su
as San Martín and Bolívar, intelligent, tr
well aware of the golden opportunity aw
own countries overseas, and of the forc
slogan of freedom, beheld themselves with
tion in the same kingly rôle. Statues of
stand all over Latin America, and it is
tributes should be paid. But the day of
is past. Critics have dared to arise, and t
not fallen upon their blasphemy.

The formation of the "Gran Reunion
with definite aims towards self-govern
Spanish A

tion and returned to Chile upon the death of his father. Imbued with liberal ideas, candid and open-hearted, the young O'Higgins stood inevitably upon the side of emancipation, and served as one of the revolutionaries' most valuable assets. The stars worked together for the success of the extremists, for a motive far removed from any idea of revolutionary merits brought them the powerful aid of the Roman Catholic Church. Napoleon the "antichrist" was anathema: the colonists were therefore encouraged to refuse obedience to his puppet kings, and we find the clerics of the Americas hand in glove with the members of the Reunion Americana.

The colonists were by no means inclined in every region throughout South America to commit themselves unreservedly to the apostles of liberty; here and there the feeling of revolt was genuinely national, a spontaneous movement from the inside; in other regions the native-born only after some years, and when separation was practically forced upon them from the exterior, disavowed Spain. Confusion was introduced, that made it difficult for the most loyal to discover where allegiance lay, by the several claimants overseas. To Joseph Buonaparte no one wished to submit, and the French emissaries were coldly received; Seville setting up a Junta (Council) loyal to the deposed Ferdinand, asked and received the adhesion of the Viceroys in the Americas, but when this body was overthrown a new Junta established in Galicia sent out a new set of Viceroys. Next came the Central Junta, also obeyed until the French occupation of Andalusia dissolved it, and later a new authority of Spanish royalists, a Regency of three members, was announced in an edict sent out by the Archbishop of Laodicea.

Confronted with these various claims, and taking

Concordia, as Viceroy of Peru and Ge
Governor of Chile, there arrived to the V
request of exiled Ferdinand that his Am
should obey Napoleon. This bombshel
with disgust by Carrasco, who wished to
Junta of Buenos Aires, but he did his ofl
read the document aloud to the populac
This was in June. A tremendous publ
lowed, Carrasco and the rest of the A
turned out, and by popular acclaim an
Notables was formed, headed by Mateo
brano y Urueta, Conde de la Conquista
spected old aristocrat who had been Gov
in 1772. This body ruled on the under
Chile would refuse French control and
wholeheartedly Ferdinand's.

The Conde de la Conquista died in No
was replaced by Dr. Juan Martinez de R
tions for a popular congress were held i
giving the signal for open strife between
parties evolved by the confused politica
The first blood shed in Chile on account of
was not a struggle with the mother cou
result of dissensions among adherents of t

Congress held its first meeting in Santiago, in July, 1811, the deputy from Chillan being Bernardo O'Higgins, educated in England and endowed with the prestige of his father's name. It was not long before O'Higgins, then but thirty-five years old, was regarded as the leader of the "Penquistos" (southerners of Penco or Concepción, who wanted to see that pleasant city restored to her ancient pride as capital of Chile), in opposition to the rich central group, with Santiago as their stronghold and the Carreras as one of the most ambitious families. In common with many another new clique, the Carreras were growing rich upon the property which was now eagerly confiscated from the "old Spaniards" and from the wealthy religious orders, whose accumulated lands and long ascendancy had engendered such bitter enmity that, during the long war of Spain with England, Juan and Ulloa reported, many people said openly that it would be a good thing if England took possession of the Pacific Coast, so that they would be free from the oppression of the clerics. The Carreras, however, wanted more than money: their determination to seize political power was demonstrated when, in December, 1811, a military coup put the three sons of Ignacio into complete control of all the newly recruited Chilean land forces, with José Miguel as the commander-in-chief.

This young man dispersed the national congress by force, proclaimed himself President of a new Junta, and banished Dr. Martinez to Mendoza: all this still in the name of Ferdinand. But the confiscation of property, removal of Spanish officers from the army, declaration of free trade (a tacit invitation promptly accepted by many foreigners), abolition of slavery and collection of church income, spelt practical independence from Spain, and strong exception was taken in more than

at the mouth of the Maule with 20
for the disciplining of Chile.

José Miguel Carrera marched a Ch
wards, falling in with the Spaniards a
fifteen miles from Talca; the ability o
manding the forces in the field, br
defeat of Pareja, who was driven to
treme south remaining pro-Spanish a
another, subject to Spanish influence
year 1824.

A strange accident now turned t
against the Carreras. The centra
termined to endure no longer a rule of
worse than that imposed by Spain, dep
in his absence by a vote of the Junta
plete control of the army to Bernardo
Carreras hurried north to watch thei
caught by a Spanish patrol and sent
Spaniards were presently reinforced
Gainza, took Talca, and became strong
1814, to arrange the Convenio de Lirc
political leader of Chile, Henriquez L
of Valparaiso. By this agreement th
were to retire to Lima, on the

the agreement. [illegible] reinforcements [illegible] signing, and [illegible]

[illegible]

Meanwhile [illegible] entered [illegible] Governor [illegible] inaugurated [illegible] the growing [illegible] Juan Fernandez [illegible] months Spain [illegible] Lower and Upper [illegible]. A fierce struggle between the [illegible] and the northern patriots under Simon Bolivar had begun [illegible] and continued with [illegible] zuela and Colombia (New Granada) were drenched in blood. [illegible] Buenos Aires had been actually independent since the middle of 1810, although the Spanish authorities held out with peninsular troops in

mountain passes w
West, decided to bring her to the fol
raised an army, and put José de San
While the eldest of the Carrera brothe
Martín was upon hostile terms, we
States to try to get help in the C
strong force of 4000 men was collecte
celebrated "Army of the Andes." B
had put Spain and the South Ameri
the position of furious opponents
Viceroy's actions forced Chileans to
hostility to Spain. For the plain citi
country with a desire to live in peace
take fairly, it must have been difficult
as regards the authorities to whom he
and paid taxes; but for such revolut
Martín the vision was simpler. He hu
trait on the wall beside that of the
memory of that superhuman conque
blood and filled his landscape.

The Spaniards in Chile, aware of the
Army of the Andes, were tricked into b
main body intended to descend into th
by the southerly Planchon Pass. But e
when the army

In the Chilean Andes.
A Chilean Glacier, Central Region.
Rio Blanco Valley, above Los Andes.

cisive that the Spanish leaders did not even attempt to enter and hold Santiago: they fled hastily to Valparaiso, and, accompanied by scores of their panic-stricken sympathisers, filled nine ships and sailed away to Peru.

Bernardo O'Higgins, to whose energy this success was chiefly due, was made Supreme Director of Chile, openly independent now, with no more talk of Ferdinand, although the actual proclamation was delayed until February 12, 1818, upon the anniversary of Chacabuco. In the same year Osorio came back, with 5000 Spanish troops, and in March San Martín was surprised and his army badly defeated at Cancha Rayada; it was followed by a repetition of the exodus over the Andes as after the Rancagua defeat, but in better weather. Nor did the exile of the patriots last so long, for on April 5, before the Spaniards could take possession of Santiago, the Chileans attacked again and won the final victory of Maipu. Only about 200 Spaniards escaped to take ship for Peru, all the rest falling upon the Maipu plain or being taken prisoner.

Three days later, in Mendoza, the two younger sons of Ignacio Carrera were shot upon a frivolous charge, an event generally regarded with regret in Chile and always ascribed to the revengeful spirit of San Martín. These young men had been refused permission to join the Army of the Andes, were on parole in Buenos Aires and were still in that city when José Miguel returned from the United States. Here he had obtained means to fit out an expedition, promising to pay the debt with funds obtained from Chilean import duties later on; he chartered five ships, took on arms and ammunition sufficient for several thousand men, and received as volunteers a number of technical workmen, and over

undred military officers, including seventy French
British.
But when Carrera in his first ship entered Buenos
es on the way to the Horn, the vessel was seized and
was placed under arrest on board a brig, from which
escaped into the Argentine interior. The remaining
sels of his fleet put back to North America. His
brothers also fled in disguise, but were captured
in chains to Mendoza, and there executed by the
er of San Martín's secretary.
The place of the Carreras in history is not great, but
were Chileans of energy and courage deserving
ter fate: the story of their youth and good looks, and
tale of Juan José's beautiful wife who shared his
erable prison until his execution, are still remembered.
fate of the elder brother was no more fortunate:
ng three years he allied himself with various
rilla revolutionaries in the heart of South America,
was eventually caught and identified, sent to Men-

to that time, of course, no experience in this arm of a nation's defence: the first Chilean-born admiral, Blanco Encalada, had had no experience but that of a midshipman in the Spanish navy for a few years in his youth. Chile was wise in looking overseas for technical skill. It happened that many British soldiers and sailors, fresh from the Napoleonic wars, were in England when the Chilean envoys came to seek help: hundreds of men took service, partly no doubt for the sake of adventure but also from a genuine sympathy with the gallant fight put up by a little country ranged against the ancient enemy Spain. Among the naval officers who came was Lord Cochrane, with a most distinguished naval career to his credit, the hero of a score of daring deeds at sea and an extremely competent organiser; no personality of Independence is more revered in Chile today than that of Cochrane, and he who said that republics are notoriously ungrateful could never make such a charge against Chile.

But before Cochrane arrived a new success had cheered the embryo navy. Serious danger threatened with news of the coming of a formidable Spanish naval force: a courier brought the story hotfoot from Buenos Aires, where the squadron had put in. Nine ships convoyed by the *Maria Isabella* of 50 guns set sail from Spain with two thousand troops, but one ship mutinied off the Argentine coast and joined the new Republic; another transport disappeared in the Pacific; seven, with the fine frigate, arrived in Talcahuano Bay in October, 1818, in a wretched state, over 500 men having died on the way. Chile's new little navy by this time consisted of five vessels: the *San Martin*, carrying 1000 men, was formerly the British East Indiaman *Cumberland*, which entered Valparaiso in August, laden with coal, commanded by a Briton named Wilkinson, and

by Captain Francisco Diaz,
who sided with the cause of Indepen
redon, Captain Vasquez; and the *Arau*
by another Briton, Captain Morris.
southwards on October 9, and ten
the enemy ensconced under the fort
a town which with Valdivia and Chilo
hands of the Spanish. In the spirit
followed the *Maria Isabella* was run a
seized and got off safely by the Chi
seven Spanish transports were all take
later at sea.

Returning in triumph in Novembe
almost at once taken in hand by Cochr
from England, and plans made for at
where a Spanish squadron had its bas
Chilean nor the Argentine patriots h
with Peru, but here was the stronghold
West Coast; the Pacific could only be r
enfranchised Chile by its reduction.

In January, 1819, Cochrane sailed no
of the fleet, consisting then of his flagshi
(formerly the Spanish *Maria Isabella*
San Martin and *Chacabuco*. He took
and a [illegible]

nately punished by royalists and patriots for compliance with demands for supplies.

When Admiral Blanco and Cochrane returned to Chile another vessel had just been added to the little navy, the *Independencia*, purchased in the United States. Two vessels had in fact been bought, but when they arrived in Buenos Aires the agents of Chile had not sufficient specie to complete the payments for both, and had to see the second sail away to Rio, where she was sold to the Brazilian government, although Chile had paid half her price. The relations between the United States and Chile were peculiar at this juncture; the bulk of the population were certainly not unsympathetic, and a number of American individuals were doing a brisk commerce with the young country, but a certain small jealousy seems to have been shown towards Cochrane, and comparatively little help was given to the patriotic cause. But the United States Government quickly recognised the new Chilean government and had appointed a consul during the days of Carrera's régime.

Before Cochrane refitted his ships for new expeditions, the patriot armies had gained ground in the south, and the outlook had considerably improved. In September, 1819, the Chilean navy returned to Callao with seven ships, chased the Spanish frigate *Prueba* into the Guayas River, sailed up 40 miles to Guayaquil and seized two armed prizes, the *Aguila* and the *Bigoña*. At Puna island, where Spain built most of the vessels used in the Pacific between West Coast ports, Cochrane loaded his prizes with the famous hardwoods of the Guayaquil region, sailed out and took the *Potrillo*, a provision ship, and sent her to Valparaiso with news while he turned towards Talcahuano with the object of aiding in the obstinate southern struggle.

force of about 350 to the fort "del
and took it, went on and stormed C
before the night was over the Ch
possession of the four other main bat
side. With the dawn came the *O'Hig*
the uselessness of further fighting, t
abandoned the northern forts and fle
divia. The defenders numbered 2c
were provided with plenty of excell
was due to the daring of this strol
resourceful sea-fighter who well kne
surprise.

"At first it was my intention to h
fortifications and to have taken the a
on board," wrote the Admiral to Ze
Minister of War and Marine a few
could not resolve to leave without
and most beautiful harbour I have s
and whose fortifications must doubtl
than a million dollars." He left a
sailed farther south to try to take
stronghold in Chiloé, where the gallan
nilla maintained a plucky and hop
was destined to maintain it for nearl

military work on the mainland was limited to guerilla disturbances in the forestal interior. Many Spaniards took refuge among the Indians, and the tragi-comedy was enacted, for several years, of both the new Chilean parties and the Spaniards flattering and bullying the Araucanians into taking sides. To political divergences the native must have been profoundly indifferent; despite the fact that his frontier still stood at the Bio-Bio River and his southerly lands were intact, his spirit had been warped by the steady pressure of three centuries, and perhaps most seriously changed by the civilised habits he had learnt from the white man. He had taken to cultivation, to the use of European foods and a few implements; as a result, he had needs hindering his ancient freedom and he could be cajoled by their satisfaction. "I have distributed to each cacique on taking leave," wrote Beauchef to Cochrane after the taking of Osorno, "a little indigo, tobacco, ribbon and other trifles." And also with ribbon, tobacco and "trifles" the Spanish survivors, or the recalcitrant Benavides (wavering first on one side and then the other and finally to outlawry in the woods), and the patriots of Chile, bought the Indian, giving him short shrift when territory or villages changed hands. Eventually, in 1822, a Chilean punitive force was sent to the south, the Indian country inland from Valdivia was reduced, and the Spaniards troubling that region given up. The diary of Dr. Thomas Leighton, an English surgeon acting as medical officer of the expedition, as quoted by Miers, is extremely illuminating.

With Valdivia in their hands, the Chileans were able to contemplate a bold stroke. It was decided to clear Spain once and for all from the Pacific by bringing Peru into the camp of independence: the return of Cochrane from the south was the signal for completion of plans

preceded by proclamations from
declared the wish of Chile to contribu
and happiness of the Peruvians, wi
your own government and be your
"No influence," he stated, "civil or
indirect, shall be exercised by these y
your social institutions. You shall sen
force that comes to protect you wh
and no pretext of your danger or y
serve to maintain it against your cons
division shall occupy a free town exc
tion of the legal authorities; and the
and ideas prevailing before the time
shall not be punished by us or wi
O'Higgins was undoubtedly sincere;
from any trace of selfish or ulterior
Martín's objects were less simple.
peculiar; sent originally into Chile a
Pueyrredon, he had practically disav
the Argentine, where no political lau
to offer, and taken service with Chile.
to share popular affection with the b
and the applauded Cochrane; in Pe
the field to himself, and to this end he

split upon two rocks — the Viceroy refused demands that he should acknowledge the independence of the South American colonies: San Martín could not sign acknowledgment of even nominal submission to the Spanish Crown. The Liberating Army eventually set sail again on September 28, and passed on to Callao, where on November 5 Cochrane, with 240 volunteers, performed the exploit, never forgotten in the annals of the Pacific, of cutting out the Spanish frigate *Esmeralda*. This fine ship had 40 guns and 350 men, lay inside a strong boom and a line of old vessels, was surrounded by 27 gunboats and protected by 300 guns of the forts on shore. But Cochrane boarded and took her, and with a couple of other Spanish gunboats sent her outside to an anchorage beyond the reach of the Peruvian cannon. Renamed the *Valdivia*, she afterwards served as a unit of the Chilean fleet.

San Martín, now at Ancon with his forces, delayed the projected attack upon Lima, sent out sheaves of grandiloquent proclamations, and watched with anxiety affairs farther north, where the now triumphant Bolívar was occupying Quito and might push forward to Guayaquil — a rich province also coveted by San Martín and to which he now sent envoys with suggestions that Bolívar should be kept out. For the next seven months San Martín's forces remained idle, although a part of the force under the British Colonel Miller and the able General Arenales continued to range the coast; Cochrane maintained a close blockade of Callao, and at last, unable to get supplies and alarmed by the insecurity of their position in Lima, the Spanish authorities evacuated the city and went to Cuzco. This was on July 6, 1821, and for about a week order was kept in Lima by Captain Basil Hall of H.M.S. *Conway* with a handful of marines. San Mar-

en sailed to Callao and took possession of Lima,
Independence was proclaimed on July 28.
August 4, San Martín declared himself Pro-
of Peru, proclaiming his absolute authority and
g three associates as the cabinet ministers.
sted by Cochrane to pay the wages and bounty
sed to the fleet on the fall of Lima, San Martín
red that he could not, as Protector of Peru, pay
s debts, said that he could only find the money if
uadron were sold to Peru for his use, and presently
e effrontery to invite Cochrane to leave the service
le and become Admiral of Peru.
hrane's indignant replies are historical; he sailed
after repeated attempts to obtain the sailors
, and, learning that San Martín had shipped
erable treasure to Ancon (upon the advance of
of the still undefeated Spaniards), went there and
ossession of the gold and silver. One can imagine
im smile of the experienced old sailor as he mad

post of admiral of the joint squadrons of Chile and Peru. Cochrane answered bluntly that he would have no dealings with a government founded upon a breach of faith toward the Peruvians, supported by tyranny and the violation of all laws; that no flag but that of Chile would be hoisted upon his ships, and he refused to set foot ashore. He brought the fleet back to Valparaiso on June 2, 1822, after two and a half years of ceaseless effort in the service of Chile. The Pacific no longer showed a Spanish flag upon ship or fortress; his work was done. When Cochrane left Chile in January, 1823, the independence of the country was definitely assured.

Spanish rule in the Americas had endured for three hundred years, but at the end of that period it cannot be said that the profit of her conquest and colonization was on the side of Spain. The amazing courage of the conquistadores forms a record without parallel, not upon the part of such great figures as Cortes and Pizarro only, but scores of less known pioneers. "In a period of seventy years," Cieza de Leon has written, "they have overcome and opened up another world than that of which we had knowledge, without bringing with them waggons of provision, nor great store of baggage, nor tents in which to rest, nor anything but a sword and a shield and a small bag in which they carried their food."

Between 1519 and 1822 the Spaniards [illegible] established and at least one [illegible] in the Americas; but on the other side of the ledger they gave the contact with West European speech, thought, crafts and aims that brought [illegible] regions into line with the rest of the modern world. It is true that vast stores of precious metals were taken away, but in return were given two things more valuable, ideas and blood.

direct interest was created in commercial prosperity. When Cochrane, on behalf of the Chilean government, suggested a new customs rate of 18 per cent, taking on board and guarding a quantity of disputed goods, there were international and loud objections to his "floating customhouse." With the establishment of the young countries was closely entangled a number of commercial interests with wide ramifications.

While the movement of affairs in Lower and Upper Peru, Bolivia and Ecuador, filled public attention, the new Chile struggled to secure stability as a self-governed country. The steps towards this end were not all easy. The country had never been wealthy — in fact, scarcely self-supporting, for the shipments of agricultural and mineral products to Peru and Spain did not pay the costs of government and defence against the

nations — particularly Mexico, Central America, Colombia and the United States — but also by Europe, immensely affected by the success or failure of Spain to reassert her possession of the colonies. Vessels of war of the United States and Britain ranged up and down the coast, their position as neutrals complicated by the fact that many of their own nationals were interested, either openly and quite un-neutrally, in promoting the success of the revolting South Americans, or in commercial transactions which were frequently perfectly legitimate and straightforward, but which were sometimes kaleidoscopic. Fluid and irregular trade conditions had prevailed upon the coast for a century: Spain had been forced during her long wars to give an increased number of trading licences, and much commerce was performed under cover of Spanish names by foreign merchants. During Cochrane's efforts to stop the smuggling and underhand traffic that went on, particularly in the series of small ports (headed by Pisco and Arica) in South Peru, he found himself more than once at loggerheads with the merchants, and with the British and other foreign squadrons watching affairs. Duties ran high, sometimes up to 60 per cent ad valorem, and in consequence along this "Entremedios" region a tremendous amount of smuggling flourished; many of these little villages formed on occasion markets for the interior of such size that the coast was glutted with European goods and merchandise among the sand-hills was as cheap as at a bargain sale.

Banks did not exist, and there was no adequate exchange of South American products; cash was paid and had to be shipped overseas. A custom grew up among the British traders of sending such payments home by naval vessels, and as a percentage was paid upon these sums for safe-carriage to the captains of men-of-war, a

customhouse. With the establishi
countries was closely entangled a nun
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Indians — and she was now nearly
terrible burden of expense had been
military and naval campaigns in her c
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and the religious orders was not an ine
ure. A loan raised in London in 182
than temporary relief, and heavier tax
than in the days of Spanish control.
of new hopes, the realization of the i
the Chilean nation, did not suffice to s
from a period of dissatisfaction and un

Bernardo O'Higgins never lost his p
ity, but murmurs against his minister

Bautista, Village of Cumberland Bay, Más a Tierra Island (Juan Fernández Group), 400 Miles West of Valparaiso.

The Plain of Calavera, Chilean Andes.

pass but one; prohibitory duties were placed on many articles of foreign manufacture,

The composition of Senate and Chamber of Deputies was outlined, the Senate's and Director's term of office fixed at six years, while the deputies, from whom a property qualification was required, were to be elected annually, one for every 15,000 people. The Director was made head of the army and navy, with powers to create foreign treaties and to make peace and war. The treasury and all ecclesiastical appointments were in his hands, as well as the naming of ambassadors, judges, ministers and secretaries of state. In the middle of October, 1822, General San Martín suddenly reappeared in Valparaiso, in the character of a private citizen whose health required a sojourn at the medicinal baths of Cauquenes. He told a tale of voluntary renunciation of Peruvian dignities that received little credence; as a matter of fact, the luck that for a period had made him appear a master of men had failed him at last.

From the time when he made himself Protector in Lima (August, 1821) the Peruvians had taken exception to his arrogance, his oppressive treatment of leading citizens, the extortions of his ministers, and complained of the want of stability in the country. In the interior Spanish forces still maintained themseves, while San Martín kept idle an army of 8000 men, a burden upon the populace. Early in April, 1822, the royalist General Canterac marched quickly upon the coast and inflicted a severe defeat upon the forces of the Protector, near Ica. San Martín, alarmed, decided to ask aid from Bolívar, fresh from victories in the Ecuadorian interior, and sailed to Guayaquil. He was received by Bolívar on July 26, but with such hostility that, fearing for his personal safety, he left hurriedly on July

and sailed back to Callao. He found that Peru undergone a *coup d'état*. Upon his departure ding citizens held a meeting, insisted upon the res- ation of his unpopular minister, Monteagudo, and orted him. San Martín accepted the warning and ted only until the convocation of congress to offer resignation and to leave the country. If he had any am of returning to take a part in public affairs in le or Argentina, it was speedily dissipated, and sently he retired to an estate at Mendoza, now a t of his native Argentina. His arrival and the fears Chile that he contemplated some disturbing stro ke bably hastened the irruption of feeling against th ds of the Chilean Government, by whom San Mar received with extreme friendliness. No hostil expressed against O'Higgins, whose memory agr y survives in Chile, but the detested Rodriguez w easingly blamed for the blighting commerc rees and the general depression of the country.

n November, 1822, Chile experienced one of t st disastrous earthquakes of the century: a mor r another upheaval occurred, with armed insurr s both in the north and south. The division of t

him to resign his authority into the hands of a junta of three, until the national congress could be again summoned. But the arrival of Freire in Valparaiso Bay with three warships and 1500 men put a different complexion upon governmental plans. Freire camped his men outside Santiago, declared his lack of personal ambition, but presently accepted the offer of the Directorship from the Junta. A new constitution was evolved at the end of 1823, which does not concern history since it was abrogated a year later in the face of new danger from Spain, speedily dispelled, when Freire needed larger powers.

From this period Chile slowly fought her way to social solidarity, her true wealth in agriculture developing steadily as the population increased. It is true that from a political standpoint there were few outstanding figures during the last eighty years of the nineteenth century, but whether from the outside or the inside the men appeared who brought the country to economic strength and gave her all that she lacked as regards markets, means of communication and development of her almost unsuspected resources.

In 1830 internal disturbances took place, chiefly as the result of the reaction of the *pelucones* (the Conservative-Church-aristocratic group) against the Government party of *pipiolos* (Liberals). The victory of the Army of the South at Lircay (April 17, '31) resulted in the election of the successful general, Prieto, as President, and during his term of office (1831–41) the brilliant minister, Diego Portales, advanced the country's progress materially and framed the Constitution which is still in force. Portales was assassinated upon the eve of Chile's expedition to free Peru from the domination of a foreign dictator, in 1837.

ccasion of this war was the rise of the aggressive
ian general, Santa Cruz, and his invasion and re-
n of Peru. Chile regarded this forced Confed-
n as a challenge, sent armies to the north, took
and defeated Santa Cruz at the battle of Yun-
anuary, 1839), when the Confederation fell apart.
victor of Yungay, General Bulnes, ruled Chile for
er ten years (1841–51), a prosperous and quiet
marking a tremendous stride forward in the
ry's advance. Manuel Montt, the next President,
for another ten-year period, but was troubled
ith a rebellion under General de la Cruz, crushed
battle of Loncomilla at the end of 1851; by a
of the Atacama miners, put down at Cerro
le in April, 1859; and a serious affray at Val-
o late in the same year. During the succeeding
nment of José Perez occurred Spain's last hostile
gainst her former colonies, when in 1865 a naval
ron sailed into the Pacific, seized the Chincha
s off Peru and demanded the payment of the old
ian colonial debt. Chile made the cause hers,
nobilized her fleet, brought upon herself the
ardment of Valparaiso on March 31, 1866, but
the Peruvian gunboat *Covadonga* off Papudo

[redacted]

a candidate to the Archbishopric of Santiago chosen by the administration of Santa Maria (1881–86). A governmental decree rendering civil marriages legal in the eye of Chile, and another insisting upon the right to bury non-Roman Catholics in city cemeteries, roused a great deal of popular passion and clerical objection.

Unrest culminated during the administration of Balmaceda, when quarrels broke out between the President and Congress, and his attempts to govern the country without that body ended in a mutiny of the fleet. Sailing to the north, the insurgents prepared their plans for eight months, training an army, until is was brought south in August, 1891, and Balmaceda wat defeated at the battles of Concon and Placilla. When the president shot himself in September of the same year, the mantle fell upon one of the insurrecto leaders, Admiral Jorge Montt, son of Manuel. Another of the Montt family, Pedro, occupied the presidential chair from 1906 to 1910, a period marked by great energy in the construction of ports, highways and railroads.

Since the Balmaceda revolt Chile has enjoyed complete internal and external peace, the administration of the country remaining in civilian hands and following the normal course of electoral changes.

CHAPTER III

STRANGERS ON THE PACIFIC COAST

ke and the "Golden Hind." — Thomas Cavendish. The Narborough Expedition. — Sharp and Dampier. Captain Betagh. — The Loss of the "Wager." — uan and Ulloa. — Resident Foreigners. — Strangers d Independence.

ROM the time when she planted her first colonies on West Coast of South America Spain did her utmost eep strangers from those shores or from any knowl- of them. A veil of mystery hung over the Pacific, aside roughly when Drake's little vessel weathered furies of the Magellanic Strait and the resounding was published broadcast throughout Europe.

there; both she and her envoys had in mind, not only a blow at Spanish prestige, and "some of their silver and gold which they got out of the earth and sent to Spain to trouble all the world," but the extension of the Protestant faith and the glory of England by the conquest and settlement of wild lands. The evidence of Oxenham and Butler before the Inquisition in Lima in 1579 proves that Drake intended to colonise if he could, "because in England there are many inhabitants and but little land." When, on leaving the coasts of Mexico, he sailed farther north, landed after entering the Golden Gate and claimed "Nova Albion" for the Queen, he felt completely justified because "the Spaniards never had any dealing, or so much as set a foot, in this country, only to many degrees southward of this place." San Francisco stands today on the spot where Drake's chaplain held service; the map, still extant, of Drake's correction, show that he foresaw the time when English-speaking colonies would dispute with Spain, France and Portugal possession of the Americas.

Armed with Elizabeth's formal commission, her own sword, and the title of Captain-General, Drake sailed from Plymouth on November 15, 1577, with five ships, of which the largest was the *Pelican*, of only 100 tons, but very strongly built. Officers and crew totalled about 164, and among them was his cousin John Drake, then a clever lad of fourteen years. A storm compelled them to put into Falmouth, and after repairs they sailed again on December 13. Land was first touched at Cape Mogador; thence the little fleet sailed to Cape Blanco, where they took a Portuguese ship with a store of fish and biscuit; to Cape Verde, where a Spanish merchantman's load of cloth was seized; next to the river Plate, for water and wood, on April 27, 1578,

and on to Port San Julian, where Magellan h
executed mutineers, and where, for the same crime
mutiny, Drake beheaded Thomas Doughty. T
master-gunner Oliver was killed here by Patagonia
and during the two-months' stay the Portuguese pri
the *Maria*, as well as the *Christopher* and the *Sa*
were broken up. The weather was cold and the
pedition was sorely in need of firewood.

Sailing south, they sighted the entrance of the Str
on August 17, naming one of the three islands off
south shore "Elizabeth Island." The Strait was ac
ally entered on the twenty-first of August, with win
well advanced. They saw no Indians at first,
quantities of the smoke from the innumerable fires t
gave the great island on the south its original name
"Land of Smoke." At Penguin Island they stopped
kill and salt a supply of birds, the Purchas account
the voyage stating: "This Strait is extreme cold w
Frost and Snow continually: the Trees seeme to sto

the Strait, Drake put about as soon as the terrible gales permitted and ran north outside the channels and archipelagos of South Chile. They saw Valdivia, or rather, Corral, but did not enter, anchoring first at the island of Mocha, in about 38 degrees, almost opposite the present Traiguen. Here a party went ashore to get water, but were fiercely assailed by well-armed Indians, who wounded every man of the English company, some receiving over twenty arrows. Returning hastily, the party left two men behind, and three others died of their wounds on board.

Sailing farther north in search of Valparaiso, they overshot the entrance, but discovered their mistake when they anchored in the bay of Quintero, 18 miles to the north, and found an intelligent Indian, who told them of a Spanish ship then lying off Valparaiso. Him they took as a guide, and returning boldly sailed into and anchored in the bay at high noon of December 5, 1578. At anchor also they saw *La Capitana* ("the flagship") in which Pedro Sarmiento had a few years previously made his famous voyage of discovery to the Solomons. The Spaniards aboard the *Capitana*, never dreaming that a vessel in the Pacific could be other than Spanish, hailed and welcomed them. Drake sent a boarding party, which rudely awakened their hosts when one Thomas Moon began to lay about him, struck a Spaniard and said to him (says the Purchas account) "Abaxo Perro, that is in English, Goe downe Dogge." The Spaniards were put under hatches, a prize crew sent aboard, and going ashore and breaking open the warehouse Drake added 1700 jars of wine, and stores of salt pork and flour, to the treasure he had found in the *Capitana*, amounting to 24,000 pesos of the "very fine and pure gold of Baldivia," due for shipment to Peru. One Spanish sailor pluckily swam ashore and

rned the inhabitants of the settlement; there were
t nine households, and the people abandoned the
ace to the English, who found little to loot but the
ver ornaments from the chapel. Two days later they
ighed anchor and returned to Quintero, where the
endly Indian was set ashore with gifts, and Drake
his course for more northerly ports, using the sea
art of the *Capitana's* pilot.

At Tongoy Bay, where they put in next, they found
water, and went on to the beautiful Herradura just
ove it, a few miles south of Coquimbo Bay with its
tle Spanish stronghold of La Serena. Twelve men
nt ashore here to get water, but were attacked by
mber of Spanish horsemen. Thomas Minivy, leader
the shore party, got his men into the boat, but was
tacked, and, defending their embarkation with an
ebus and sword, was killed. Drake now went on to
lada Bay, where he stayed for over a month to careen
e *Golden Hind*, to bring up from the hold and place in

guide, and seizing his cargo, they sailed for the port of Arica, a village of only 20 houses, but at that time the chief point of embarkation of the silver from the interior mines. Brought from the mountains by Indians and llamas, the precious bars were sea-borne from Arica to Peru (Callao, for Lima) to await the yearly despatch of treasure to Panama City, and overland by Cruces to Porto Bello. Of these arrangements and their usual date Drake well knew, for but six years previously he had lain in wait for and captured the train load of mules carrying silver ingots along the cobble-paved pathway through the Isthmian forest.

Proceeding to Arica, the *Golden Hind* surprised and took two ships, one containing 33 bars of silver; but hearing that a ship laden with a richer treasure was in the port of Chule (about five miles north of Ilo) he hurried on. However, before his arrival warning had reached the captain, who disembarked and buried the silver bars, and Drake's only satisfaction was to take the ship along and set her adrift, himself sailing on to Callao. Strangely enough, no news had reached Lima of the long sojourn and repeated raids of Drake upon the coast, and he was able to enter the bay without rousing suspicion on the part of the vessels anchored there. At this time (February 13, 1579), John Oxenham was still alive, in the prison of the Inquisition in Lima, with two or three of his crew; Drake knew it, and although he could not risk the ruin of his expedition by any such attempt as an attack on Lima, he hoped to seize Spaniards of sufficient importance to exchange for the English prisoners. When John Drake was examined before the Inquisition in Lima in 1587 he said that "Captain Francis . . . in the boat, with six or seven men, accompanied by the pinnace carrying twenty or thirty men, went to the other vessels anchored there and

heir cables. . . . This was done so that, having cut loose, the wind would carry these ships out of where he could seize them and hold them for m, so that in exchange they would give him the shman who was said to be a prisoner in Lima." lan did not succeed. A calm fell, and an attack by innace on a ship from Panama was repulsed with ss of a man; she was afterwards taken when her crew loned her. At night the tide carried them out- he port, and when in the morning three or four s came out against the *Golden Hind* Drake ran e the wind, sailing north until Paita was reached. p was taken here and another farther north, but s not until the first day of March that young John e won the chain of gold that had been promised to rst person sighting the coveted treasure ship of uan de Anton. Two days later Drake transferred the captured ship an immense treasure, including gold and fourteen chests of silver, letting her go arch 6.

feared and hated his name; but such a man as Don Francisco de Zarate taken prisoner by Drake off Acajutla (El Salvador) in April, 1579, called him "one of the greatest mariners that sails the seas, both as a navigator and as a commander." A remark of Zarate's that follows sheds a bright light on Drake: "Nine or ten cavaliers, cadets of noble English families, form part of the council which he calls together for the most trifling matter, although he takes advice from no one. But he enjoys hearing what they say, and afterwards issues his orders." Zarate was shown, and apparently accepted the propriety of, Elizabeth's commission to Drake, and informs the Viceroy of Mexico that "I managed to find out whether the General was liked, and they (the crew of the *Golden Hind*) all said that they adored him."

Thomas Cavendish

The effect of Drake's feat upon the New World was electric. The Viceroys of New Spain and Peru, the Audiencia of Panama, Governors of every province, hastened to strengthen weak ports with troops and artillery; ships changed their routes, scores of reports and letters went home to Spain. Philip II, who through his clever Ambassador at the court of Elizabeth knew of the expedition before it sailed, wrote discreetly on the margin of one such letter, "Before the Corsair reaches England it is not expedient to speak to the Queen. When he arrives, yes. Investigate whether it would be well to erect a fort in the Port of Magellan."

But noisy as was the repute of the exploit in the Pacific and in Spain, it had no less effect upon the imagination of Europeans desiring a share in exploration and its rewards. Spain's tragic effort to found a

...gest of 120 tons, en
January, 1586, and passed out into
ruary 24. Sailing north to the isl
he found stores of good wheat and
roots "very good to eat." Hogs an
by the Spaniards, were thriving,
Indian small farmers were so muc
the Spaniards that they dared not
themselves, in compensation for th
had been made Christians.

Running north, Cavendish ancho
ción; in the bay of Quintero they
with Spaniards on horseback, and th
who travelled eight miles inland, de
country to be "very fruitful, with f
Off Arica the raiders took a ship, an
raiding the coastal vessels; eventu
Paita, raided Puna Island at the mou
River, and lost men there.

Cavendish took two years and two
plete the round of the globe, and the F
settled down again after the trouble
corsair when, in early 1594, Richard H
grandson of fine mariners, came thr
An ...

aptivity was released to return to his Devon
.

1598 the Dutch appeared, in the person of Cap-
Oliver Noort, piloted by one Melis, an Englishman
had sailed with Cavendish. Noort traversed
trait, sailed north to Mocha Island, where he
chicha for the first time and found it "somewhat
h," and nearby seized a Spanish ship. Off
his ships encountered terrible "arenales" (sand-
winds) and two strayed from touch with the
p. Bad weather persisted until June 13, when
Spanish pilot was for ill demeanures, by publike
ce, cast overboard. A prosperous wind happily
ded."

exploit of Noort brought many of his country-
nto the Pacific, and from the beginning of the
eenth century Holland sent out scores of fine
tors. Spilbergen came through the Strait in
and it was a Dutchman, Willem Cornelius
ten of Hoorn, sailing here in the same year, with
Le Maire of Amsterdam, who found and named
islands south of Tierra del Fuego, as Staten,
ce, Barnvelt, as they also named Cape Hoorn
e Maire's Strait. The famous Jacques l'Hermite
through and up the coast in 1623–4; and by these
rly passages also came five ships of a Dutch ex-
on in 1642–3, of which Hendrick Brouwer or
ver" left an account.

The Narborough Expedition

1669 it occurred to the English Crown that better
nation concerning Patagonia and Chile was de-
e, and the experienced Sir John Narborough was
ut with two ships in 1669. The *Sweepstakes*, of

ons, had 36 pieces of artillery; the *Batchellor*, f 70 tons, had four pieces; the crew totalled one ed. They were well provisioned and carried of beads, hatchets, etc., to trade with the na- of the southerly channels, the design of the e, which was at the king's private cost, being ake a discovery both of the seas and coasts of art of the world, and to lay the foundation of a there." Narborough was enjoined not to go before he got south of the Plate River, and not erfere with any Spanish settlements; Port De- considered beyond Spain's jurisdiction, formally possession in the name of Charles II. He nt better of Patagonia than Darwin, nearly two ed years later, for he recorded that the soil was and good, that in his opinion it might be made nt corn-ground, being ready to till, and that ery like the land on Newmarket Heath." He that the Indians seen in this region had dogs

south reached "Port Famen," where drift-wood lay as thick as in a carpenter's yard.

"A little within land from the waterside grow brave green woods, and up in the valleys large timber-trees, two foot throughout and some upwards of 40 feet long, much like our Beech-timber in England; the leaves of the trees are like green birch-tree leaves, curiously sweet . . . there are several clear places in the woods, and grass growing like fenced fields in England." He caught plenty of fish, noticed the spicy Winter's Bark and used it to stew with his food, but could find no traces of minerals in the soil. The Indians here took the knives and looking-glasses Narborough gave them "to gain their loves," but, he records, refused brandy. Sounding and taking careful observations as he went along, he named Desolation Island, passed out by Cape Pillar, and noted the Four Evangelists (calling them the "Islands of Direction") as guides for the western end of the Strait.

On November 26 he lay off the island of Socorro, in 45° south latitude, and on the 30th found and named Narborough's Island, taking possession "for his Majesty and his Heirs." By this time all the ship's store of bread was exhausted, everyone eating pease; they proceeded to No Man's Land, a small island at the south of Chiloé, and by December 15 anchored at the entrance to Valdivia Bay. Here they sent a Spaniard of the crew ashore, with bells, tobacco, rings and jew's-harps to trade with the natives, and an undertaking to burn a fire at night as a signal. No fire was seen and apparently Narborough was never able to discover what became of him. The lieutenant gathered green apples from the thick woods close to the water's edge. Next morning the lieutenant in his boat, rowing by the shore, came suddenly upon the

small fort of St. James, was invited to lan d
anish soldiery, and noted that the fort wa s
alisaded against Indian raids, and that th ne
used "very ordinary" match-lock mu s-
The officers received the English sailo rs
y, sitting "on chairs and benches place ed
ble, under the shade, for the sun shone ve ery
being a very fair day," the captain calli ing
n a silver bowl and firing five of his guns in
e asked for news of wars in Europe, s aid
much trouble with the valiant and barbar ous
who fought on horseback and infested the
losely that the Spaniards never entered he
ds nor went more than a musket-shot's is-
n the palisades. A fine dinner was served
r dishes, and it was suggested that four
should go back to the English ship with th
and pilot her into the port. But Nar
membered the old tale of "treacherous deal-

to Fort St. Peter, two miles inside the bay, where the Governor of Valdivia received Lieutenant Armiger and his companions politely, accepting their presents and offering them wine; but when they asked for a cask of water he sent soldiers and seized the boat, also taking the Englishmen prisoners, saying he had orders from the Captain General of Chile. A letter from Armiger to Narborough, sent next day, stated that "myself and Mr. Fortescue are kept here as prisoners, but for what cause I cannot tell: but they still present friendship and say that if you will bring the ship into the harbour you shall have all the accommodation that may be. Sir, I need not advise you further." This was the last we hear of him, for Narborough could not obtain his release and sailed away a few days later. Three men were with Armiger — John Fortescue, Hugh Cose the trumpeter, and Thomas Highway, a Moor of Barbary, who spoke good Spanish. Returning through the Strait, the expedition reached home in the middle of 1671, sighting the Lizard on June 11.

Narborough's careful and seamanlike observations, his sailing directions, record of soundings etc., as well as his acute notes upon South Chile, were the first explicit details published in England of the conditions of this region in the seventeenth century. The book was the manual used seventy years later by the crew of the *Wager's* longboat.

Narborough thought that advantageous trade might be made in South Chile if "leave were granted by the King of Spain for the English to trade freely in all their ports and coasts; for the people which inhabit there are very desirous of a trade: but the Governors durst not permit it without orders, unless ships were to go thither and trade per force and not take notice of the Governors." And as Spain continued to follow the

policy of exclusion, and open hostilities recurred, was what happened, until before another fifty years passed the authorities were either taking part in smuggling that went on or trying to shut their to it.

Sharp and Dampier

The next English stranger upon Chilean coasts the pirate Captain Bartholomew Sharp, raiding and down all the West Coast in 1680 in boats he built in Panama, and sailing southwards "as in a fortnight as the Spaniards usually do in t months," says Basil Ringrose. They made for "vastly rich town of Arica," took a couple of ve on the way, but finding Arica roused and the cou in arms against them, took Ilo, and proceeded sout plunder Coquimbo. Hence they sailed for Juan nandez Island. The crew deposed Sharp and ele Watling as the commander, and presently sailed

ander Selkirk. This Scot had a quarrel with Captain Stradling, and was put ashore at Juan Fernandez, where the corsairs usually assembled to get fresh water and to repair their vessels. It is said that before the ship left he asked to be readmitted, but was refused. He lived alone on the island for a period of four years and four months, and was eventually rescued by Woodes Rogers, captain of the *Duke* privateer, on February 12, 1709. Dampier, curiously enough, was then acting as Rogers' pilot, and must have been interested in the adventures of the original of Robinson Crusoe.

Captain Betagh

A narrative of uncommon interest is that of Captain Betagh, an Irishman with an observant eye and a lively pen, who, raiding in the company of Captains Clipperton and Shelvocke upon the West Coast in the year 1720, recorded his adventures in a racy tale.

The *Success* and the *Speedwell* carried King George's commission, a state of war existing between Spain and England, and the legality of their privateering was so far recognised that when a number of the British, including Betagh, were caught and sent prisoner to Lima, no charge against them regarding attacks upon coastal towns was made, and the only serious accusation was that, early in their cruise, a Portuguese and therefore friendly vessel had been seized and a quantity of money taken. The two vessels, of which the larger did not exceed 170 tons burden, sailed south down the Eastern Coast of South America late in 1719, encountering such bad weather off Tierra del Fuego that they were greatly delayed. Many of the crew died and the rest were reduced to eating mussels and wild celery found on the forbidding shore. The vessels missed a

ndezvous at Juan Fernandez, and Captains Clipper
n and Shelvocke raided separately up and down th
est Coast in an extraordinary series of adventures
ree Spanish men of war came out after them, a
ll as after the French "interlopers," but the sea
re wide and the little privateers besides being fas
re manned by hardy British sailors, while most o
e Spanish vessels were obliged to carry Indian o
egro crews. A number of small vessels were taken
t one prize brought misfortune; the prize crew pu
oard was overpowered by the original crew, the ship
n aground, and the handful of British sent prisoners
Lima. Not long after, Betagh was sent to cruise in
e *Mercury*, a little fruit bark seized off Paita. In
s unlikely vessel he actually succeeded in taking two
zes, exchanging into the second, an old English-
ilt pink full of peddler's goods running between
nama and Peru. But the pink was chased by the
anish warship *Brilliant* and overtaken, luck, how-
er, remaining with Betagh when the Admiral proved

set ashore at Paita, whence they were sent by the usual route of the coast peddlers to Piura, and later to Lima. Here the venerable Archbishop Diego Morsillo, the Viceroy, refused to proceed harshly against the prisoners in the matter of the Portuguese *moidores*, and "would sign no order for the shedding of innocent blood." Betagh was permitted to live with one Captain Fitzgerald, a native of St. Malo, who offered agreeable hospitality. Another group of Clipperton's men, taken and also brought to Lima not long after, yielded to suggestion and became converts to Roman Catholicism, with merchants of Lima standing as godfathers. Apparently the Limeños were not disposed to severity towards these brands wrested from the burning, for when an assortment met at a public house kept by one John Bell to confirm their baptism with a bowl of punch, and became so dimmed of vision that they knocked down and smashed the image of a saint in mistake for an aggressor, the Inquisition released them after a five days' cooling of their heads. Nor was the action of the authorities anything but strangely lenient when the same precious converts were caught out in a more serious business. Headed by one Sprake, they formed an audacious plot to seize a ship at Callao, and, to get money for firearms, had the effrontery to beg for alms in the Lima streets as "poor English newly baptised." Discovered, they were all jailed for a time, but presently released with the exception of the ringleader, with whom the Government was "greatly provoked."

Betagh himself was permitted to work his way home in the Spanish ship *Flying Fish*, and returned to London in October, 1721. His book, written soon after he returned, is a valuable companion picture to that of Byron: both were straightforward narrators of the

upon the West Coast of young nav al
aged in their duty of "cruising upon a nd
he enemy" in the closed waters of t he
, at a time of extreme interest in wo rld
tagh's descriptions show that he had an
ery, as when he said of Coquimbo that it
a green rising ground about ten yards hi gh,
e has formed like a terrace, north and so uth
line of more than a mile. The first str eet
lightful walk, having the prospect of the
nd it and the bay before it. All this is
ed in a valley ever green and watered with
ch having taken its rise from among the
flows through the vales and meadows in a
am to the sea."

The Loss of the "Wager"

ng again at war with England in 1740,
Anson was sent to the Pacific, as Vernon in
ntic, colonies of Spain on exactly the same
had prevailed in Elizabeth's day — to
emy in one of his tenderest spots.
ority under which they sailed was not
the rule of conduct on both sides was that
llant enemy." Britain's Caribbean pos-

Nevertheless he harassed the coast, and captured Paita; but was forced to sink two unseaworthy vessels, collecting the remainder of the crew on the *Centurion*, and remained cruising about the Pacific until in June, 1744, he took one of the treasure-ships on her way from Mexico with enormous wealth on board, and sailed home with the spoils. He is said to have brought back more than a million pounds' worth of gold, and to have entered port with a big golden Spanish candlestick tied to every yard-arm of his ship.

Of the *Wager*'s fate Anson did not know for several years: this vessel was cast away on an island off South Chile, a number of the crew escaping in various ways. The loss of the *Wager* and the subsequent fate of her crew not only forms a moving and almost incredible story with which Chilean colonial life is interwoven, but had a lasting effect upon international maritime law. For, following the desertion of the captain by the insubordinate leaders in the *Speedwell* longboat, an act of Parliament was passed which made such conduct mutiny in the eyes of justice. Until that time the pay of a crew ceased when their ship was wrecked, and they then had no employers nor commanders and the officers, in consequence, were without technical authority, although in practice this control was almost invariably conceded.

The *Wager* was an old East Indiaman. She set sail deeply laden with repairing gear and stores for the squadron, and was in no condition to withstand the fierce buffeting of the South Seas. She lost a mast after passing Le Maire Strait, failed to regain touch with the squadron, and while hastening in the teeth of terrible weather to reach the rendezvous at Socorro Island, south of Valdivia, she was wrecked off a desolate island lying between 47 and 48 degrees of south lati-

The names of Wager and Byron Islands, in the
n of the Gulf of Peñas, commemorate the ship-
k and struggle for life of the survivors, and the
of that single-hearted and clear-headed mid-
nan, young John Byron, who wrote an account
e affair forty years afterwards, when he had be-
a Commodore of George IV's fleet.

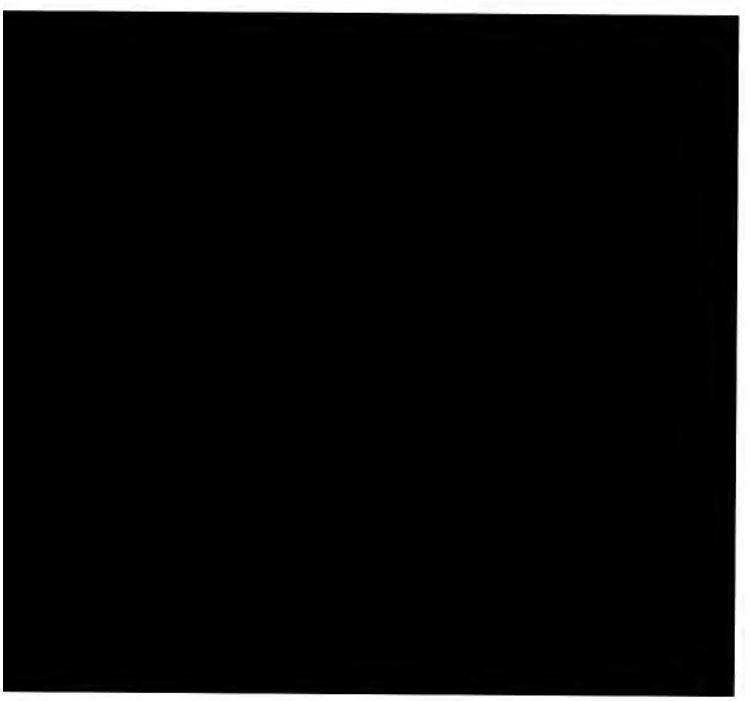
e wreck occurred on May 14, 1741. About 140
of the crew and marines, the captain and officers,
shore, were able to save a certain amount of salt
flour, wine, etc., from the *Wager*, but found
ng on the island that could serve as food but wild
, the shell-fish of the wave-battered rocks, and a
ea-birds. Indians who visited them occasionally,
st as badly off as themselves, bartered a few mangy
and, once, three sheep, for ship's merchandise, but
shelter and food were insufficient; rains and violent
ner were continual, and to make matters worse
els broke out, a party withdrawing themselves
the authority of the captain, who alienated many
s when he shot a turbulent midshipman. Forty
were dead, from drowning or their sufferings on
sland, before a means of escape was ready with
epair and lengthening of the *Wager's* longboat.
is little vessel Captain Cheap proposed to make

the scant accommodation of the [illegible] who had gone on board believing [illegible] were being taken off, returned [illegible] few other men, in the barge. [illegible] eat but seaweed, fried in [illegible] and wild herbs; there were no [illegible] party were extremely weak. [illegible] attempt a northward journey [illegible] began to mend as well as [illegible] yawl left to them. A [illegible] from the nearby lagoon [illegible] of twenty finally embarked [illegible] countering rain, cold and [illegible] along the rocky, wooded and [illegible] being forced to lie [illegible] heavy breakers prevented [illegible] The yawl was sunk [illegible] land of Tres Montes [illegible] were forced, since the barge [illegible] leave on shore [illegible] other provisions [illegible] to watch the barge [illegible] calling out "God [illegible] they disappeared [illegible] had to put back again [illegible] marines, no trace was found [illegible] upon the beach.

Now and then they found a [illegible] berries, and lived for days [illegible] months of incessant struggle were [illegible] scene of the wreck. Here they were [illegible] tremities, and all must have died of [illegible] an Indian chief from the [illegible] with the Spanish and [illegible] the place a fortnight later. To him they offered

arge if he would conduct them to a Spanish set-
nt, and a few days later the thirteen English and
ndian "Martin" with his servant embarked, steer-
orth. Some days later six men took the barge
deserted, and thenceforth the party made their
n an Indian canoe, with frequent portages, through
roken and inhospitable Chonos country. Byron
s warmly of the kindness shown by Indian women
m, and his notes upon the country and the cus-
of the wild folk are of great interest; but the
ey was terrible, and the surgeon soon succumbed
arvation. The only person to whom the Indian
showed respect was Captain Cheap, whose nature
become "soured," as the loyal but plain-spoken
n permitted himself to remark, and who was care-
f the misery of his companions. Starving and in
covered with vermin, and exhausted with the
ant work of rowing, they arrived at length at an
l ninety miles south of Chiloé, and traversed the

Last Hope Inlet (Ultima Esperanza).
Channel in the Territory of Magellanes.



in a Jesuit college for a week, and then taken to the Governor, being treated with consistent goodwill; when, some time later, this official, a Chilean-born, made his usual tour of the island he took his English prisoners with him. During the second sojourn in Castro young Byron was offered the hand of the pretty and accomplished niece of a rich priest; but excused himself, although sorely tempted by an offer of a piece of new linen to be made up into clothes to replace his rags. On January 2, 1743, the party were embarked upon a Spanish vessel bound for Valparaiso; the ship was country-built, of 250 tons, and was 40 years old, carrying a Spanish captain and Indian seamen. At Valparaiso they were put into prison, and would have fared badly but for the native kindness of the Chileans, who brought them food and money, their jailer spending half his own daily allowance to buy wine and fruit for them.

When the President of the Audience in Santiago, Don José Manso, sent for them to the capital, they went with a mule-train over the beautiful hills and plains, and, arriving in the city, the four officers (Captain Cheap, Hamilton, Campbell and Byron) were permitted to live in the house of a Scots physician, Patrick Gedd. Of the next twenty-four months Byron speaks with the appreciation of all travellers to whom Chileans have opened their hearts. Nor, indeed, were the Spanish officials unfriendly, for as it happened several Spaniards who had been taken prisoner by Anson in the *Centurion*, and set free, came to Santiago, and spoke warmly of the excellent treatment they had received.

Santiago, after the miseries of the Golfo de Peñas, appeared delightful to the young midshipman; he speaks of *tertullias* and bull-fights, country excursions, the fine fruit and agreeable women, and altogether he

s to have given and received such pleasant impres-
that one must regard him as one of the first
sh diplomatic agents to Chile. The fact that the
r had come on a hostile expedition, although the
ity was directed against Spain, perhaps added a
of romance. When the party had been two
in Chile, the President gave them permission to
rk in a French ship bound for Spain, and on De-
er 20, 1744, Byron, Hamilton and Captain Cheap
pbell electing to remain in Chile) set sail in the
rigate, the same vessel in which the distinguished
Jorje Juan also travelled. Calling in at Con-
ón, or rather the port Talcahuano, they joined
other French vessels, the *Louis Erasme*, *Marquis*
in and the *Delivrance*. The *Lys* now sprung a
returned for repairs to Valparaiso, while the three
vessels, proceeding, fell into the hands of English
of-war.

e *Lys* put to sea again on March 1, 1745, after
iencing an earthquake in Valparaiso Bay, and
led Cape Horn; was chased by English ships near
Rico, but got away to Santo Domingo. Thence
sailed again in August, sheltered by a French

porter tried to shut the door upon his "half-French, half-Spanish figure."

The narrative published in London in 1743 by John Bulkeley and John Cummins, respectively the gunner and carpenter of the *Wager*, tells the story of the long-boat and cutter and of the eighty men who went south in those two craft. Bulkeley and Cummins seem to have been as bold and wordy a pair of sea-lawyers as ever trod a deck, and one cannot but sympathise with the lieutenant who represented them "in a very vile light" on their return home; but the relation has its place in history, carefully doctored as the journal of events appears to be.

Setting out on the morning of October 14, 1741, the longboat *Speedwell* carried fifty-nine men, the cutter twelve and the barge ten; the latter returned northward on the 22nd, and the cutter was destroyed among rocks early in November, with the loss of a seaman. The *Speedwell* was now alone, with seventy-two men in her, facing the cruel gales and the cold south as she crept with sail and oar towards Cape Pillar. On November 8, eleven men, exhausted with the struggle and seeing the boat overloaded, were set ashore at their own request, after Bulkeley had made them sign one of the documents which no dangers nor trials made him omit. On the 10th they believed that they identified the four Islands of Direction spoken of in Narborough's book, by which they sailed, but lost their way when within the channels and suffered terribly from cold, rain and hunger, three men dying of starvation on November 30. In order to ascertain their true position they decided at length to return west to Cape Pillar, found it on December 5, and turned east once more. Now and again they found Indians who traded dogs to the starving crew, who thought the flesh "equal to the best mut-

two more men died of want on the 8th and 9th although droves of guanacos were sighted off the ows, they could not shoot any. A month later were but fifteen men in reasonably good condi- but they had managed to row and sail the boat of the Strait, were off the Patagonian coast, were able to kill seals and get fresh water. On ary 14 a party went ashore for food, and heavy drove the *Speedwell* from the coast, eight men left behind; this was about 200 miles below os Aires. On the 20th they were seen and given by cattlemen on the Uruguayan coast, and reached Grande (do Sul, in South Brazil) on the 28th. al other men had died on the northward journey, he survivors were starving when the hospitable e of Rio Grande opened their houses to them.

re they remained until March 28, when Bulkeley, mins, and eleven others got a passage to Rio, Lieutenant Beans tarried with the rest of the for the next north-bound ship. From Rio the party got on board a ship bound for Bahia and n, transhipping thence for England and arriving

Spanish naval officers, Don Antonio Ulloa and Don Jorje Juan, who left such valuable records in their "Voyage to South America" and in the highly illuminating "Secret Notices" presented to the King of Spain which were not published until many years later. Their place here is due to the fact, as they emphasised in the "Noticias Secretas," that by this time Spain and her colonies had grown far apart in feeling. A native-born white population of "creoles," as well as a large undercurrent of mestizos and some mulattos, had grown up, and the stream of Spanish-born who came to the country were frequently out of sympathetic touch. Spain felt this, and the commission of inspection and report which the King added to the two officers' original duties shows how far the West Coast was still an unknown country.

Ulloa and Juan's visit (1735–1745) was the result of the determination of the French Academy to settle the question of the shape of the earth by measuring two arcs, one upon the equator line and the other as far north as it was possible to travel. Asia and Africa offering no safe or conveniently approached region near the equator, the Academy applied to Spain for leave to enter the province of Ecuador for this object, while a second party went to Lapland. Consent was given, but with the proviso that Spanish officials should accompany the expedition, and eventually choice fell upon Captains Antonio Ulloa and Jorje Juan, naval officers already distinguished for their mathematical ability.

La Condamine had not completed his laborious task in the highlands of the equator when news of Anson's naval plans reached Peru, and the Viceroy sent hastily to Quito for the two Spanish captains to aid in the defence of the coast. From late 1740 to December,

3, these duties occupied Ulloa and Juan, when they urned to finish certain measurements above Quito. ring the interval they travelled in Peru and Chile, the observations they made shed much valuable t upon colonial conditions.

With scientific work at an end in 1744, the two offi- s prepared for return, embarking at Callao in sep- te ships — Juan in the *Lys* and Ulloa in the *Deliv- ce* — so that the chances were increased of one of m reaching Spain safely, war having broken out ween France and England as well as continuing be- en England and Spain. The *Delivrance*, however, s caught by English men-of-war when she sailed into isburgh Bay, Canada, unaware that the port had en. Sent prisoner to England, Captain Ulloa ar- d at the end of 1745, and in London received the atest marks of respect from scientific men of the , including the President of the Royal Society, of ch body he was made a member.[1] He was assisted

of adventuring persons upon the West Coast. Likely young white men have, indeed, seldom been denied a welcome in new countries and whatever the Spanish authorities might say the growing native-born populations of Chile continued to beckon.

Resident Foreigners

From time to time orders were issued that foreigners should be turned out of Chile; for instance, in April, 1769, the Town Council of La Serena (Coquimbo) promulgated a royal edict that foreigners were to leave the country within thirty days under penalty of the confiscation of their property. However, this applied only to persons engaged in trade, mining, or the legal profession, and to travellers, while such useful individuals as locksmiths and blacksmiths, tailors, bakers, cooks, mechanics, physicians and surgeons, were permitted to remain. Two Englishmen, Murphy and Denton, were among the persons told to leave the town, while a couple of Italians, a Frenchman and Portuguese also fell under the ban. It is doubtful whether the edicts were more than temporarily pressed or obeyed, for as a matter of fact many foreigners lived upon excellent terms with the local authorities, and, liking their surroundings, were equally well regarded. Thirty years before this particular edict was issued, and which applied to all important Chilean towns, there was living in Santiago a prosperous Scots physician, who was on sufficiently good terms with the Governor of Chile to obtain the keeping of the three English prisoners from the *Wager*.

Anglo-Saxon names in Chile, as a glance at any Chilean town directory shows, are too many for a satisfactory survey of their origin to be made in a few

But the result of this amicable invasion is
ly witnessed by the characteristics and qualities
modern Chileno.
e of the families have immense ramifications,
ere are so many interlockings that a member of
Anglo-Chilean family is likely to possess cousins
hout the republic, as well as in the United King-
nd, possibly also in North America. There are,
tance, the branches and connections of the Ed-
family, descendants of that George Edwards
me to Coquimbo on a British ship in 1804, left
d married the Señorita Isabel Osandon, whose
was of Irish descent. Agustin, one of the three
f this marriage, founded the Banco de A. Ed-
whose original headoffices were in Copiapó, the
plendid copper mining centre. The same Agus-
dwards promoted the Copiapó railway, married
he great Ross family, and was the father of the
guished Chilean Minister at the Court of St.
Don Agustin Edwards

of Sligo, and both he and Barnard remained and married in the country.

Strangers and Independence

With the first dawn of the struggle for independence in the Spanish colonies of the New World, help came promptly from across the Atlantic. The political aspect, promising a definite cessation of the anxieties and restrictions that harassed Europe and offering the counterbalance to which Canning trusted, was a matter for statesmen; but it was the appeal to the spirit, the call for help towards freedom, that touched popular imagination and sent thousands of British volunteers across seas. Many of these men died; some returned home; and a large number remained in Latin America to form links that have proved invaluable on both sides of the world.

The money sent to Spain's lost colonies in early days set the new-born countries upon their feet economically; the soldiers who flocked to Bolivar's standard in northern South America turned the scale of battle on more than one occasion — the gallant Irish Legion is still commemorated in Venezuela and Colombia; but it was to the Pacific that the largest number of volunteers went, for not only were the armies of San Martín strengthened by fighters, many of whom had seen useful service in Peninsular campaigns, but the effect among seamen of the entry of Admiral Cochrane into the conflict was that of a magnificent example to be followed with enthusiasm. Cochrane created Chile's navy; many of the British officers who followed him remained in Chilean naval service, the link between the British and Chilean navies being sustained by the descendants of these sailors as well as, officially, by

uctors traditionally lent by the British Ad-

st British naval officers to fight for Chile pre-
chrane by some months. Actually the first
ighting ship was the *Aguila*, captained by
Morris in 1817; Captain O'Brien, command-
autaro, a converted East Indiaman, lost his
ril, 1818, when the Spanish blockading ship,
ralda, was driven from Valparaiso; Captain
, who entered Valparaiso as master of an
st Indiaman, the *Cumberland*, loaded with
her and entered the Chilean navy command-
essel, renamed the *San Martín*.
Morris commanded the *Araucana* when in
1818, Chile's new little squadron went out to
e big Spanish man-of-war, the *Maria Isabella*
h her transports in Talcahuano Bay, a bril
ccessful exploit. A little later came the for
ish brig *Hecate*, renamed the *Galvarino* an
by two British naval officers, Captains Spr
e, who also entered Chilean service. Abou
also came a number of North American
ose brought by José Miguel Carrera from th
tates.
, investors, buyers and sellers and shippi

forming valuable work and leaving records; the list includes the names of Poeppig, Darwin, de Bougainville, D'Orbigny, Mayen, the two Philippi's, explorers of the Atacama desert, and Humboldt. There was a lady, too, who has a place amongst travellers, artists and writers of the first days of Independence, the gentle and acute Maria Graham, widow of one of Cochrane's officers, who eventually returned to England, became Lady Calcroft and published a perennially delightful book of Chilean reminiscence.

Many explorers of the Chilean southerly regions did good service, for here came the *Challenger*, with a group of scientific men, and later the *Adventure* and the *Beagle*, carrying King and Fitzroy and Darwin; these vessels and the succeeding *Alert*, with Coppinger, performed invaluable surveying work. Inland, a number of such explorers as Musters, Viedma and Conway, preceded the official work of the Holdich Commission. Of recent years, no foreigner has owed more to Chile than Shackleton; after the casting away of his ship and men upon Elephant Island in the Polar Seas, and the failure of three attempts at rescue, it was the loan of the Chilean Government's *Yelcho* that saved a score of gallant lives. But before the end of the nineteenth century the visitor to the Pacific Coast had ceased to be a stranger, and in Chile the newcomer no longer feels himself to be in a foreign land.

CHAPTER IV

THE INQUISITION IN CHILE

ıar. — Aguirre. — Sarmiento. — European Corsairs. — Decay of Power

E history of the Tribunal of the Holy Office of the sition in Chile follows the familiar lines of the in other countries, and is chiefly interesting in de-lights shed upon colonial life. The veil drawn ts acts during its period of activity was only lifted e discovery, in the Archives of Simancas, of the sitors' meticulously-kept records. The counts st the Tribunal do not include those of suppressing torting its own history.

ɛ first great Inquisitor, Torquemada, died six after the discovery of the West Indies by Cris- Colón, and, under Pope Adrian VI, a branch was ɛstablished in the island of Española (Santo Do- ɔ), with authority extended to Mexico as early as It was not, however, until 1569 that the royal ı of King Philip II opened all the Americas for- to the Tribunal, although for many years pre- y the local dignitaries of various churches in ch America were delegates of the powerful fune-

of Cuzco when the two captains of Pedro de Valdivia, Monroy and Miranda, arrived, almost starving, from the camp of their leader to beg help, and he promptly lent 14,000 pesos to buy supplies and aided in raising a new force. He had been twenty-three years in the service of the crown in the New World when somebody happened to hear him say, in the plaza of Santiago de Chile in August, 1562, that he always listened when Father Gil read the gospel, but shut his ears to the moral. Witnesses, old brothers-in-arms, admitted that he said this, but a suggestion that it was a joke, and that the listeners laughed heartily, was received coldly. Escobar added that the Father always abused the residents too much, and that he did not like the dictum that Spaniards who killed Indians would go to hell. But the representatives of the Inquisition found that he was guilty of Lutheranism, that his goods should be confiscated, that he should suffer imprisonment, etc. Escobar protested, asked for a "lettered person" to help in his defence, and the end seemed to be reached when the Fiscal reduced the sentence to the payment of costs. But the militant Father Gil objected to aspersions upon his loyalty made in the course of the trial, and a series of quarrels followed, resulting in the excommunication of the judge, another priest, and the lawyer Molina. When the scandal took, presently, the form of a contest between different ecclesiastical Orders, we find a new list of twenty-five excommunicated persons, including the Lieutenant-Governor, a bishop-elect, a number of friars, and a couple of Negros. When the monks set upon and beat a notary, the brother of Molina assaulted a monastery, and later Molina, imprisoned, escaped and fled to Concepción, while most of the other disputants carried their loud complaints to Lima.

The case of Francisco de Aguirre is more tragic. A
usted captain of Valdivia's, he was the founder o
a Serena (elder sister of Coquimbo) and was after
ards in charge of the expedition sent across the Ande
d into the present Argentina, by way of Tucuma
d Santiago del Estero, the most cruel desert tha
en these hardened explorers had encountered. A
e wretched party made its way towards the Spanis
ttlement already existing on the Atlantic border, a
a Plata, mutineers seized Aguirre one day, and, ap
rently not daring to kill him, pretended that the
ted for the Inquisition. To the Bishop of La Plat
ey presently handed him over, and as this worth
ought that the newly discovered provinces might a
ll be governed by a protégé of his own, he kept th
nquistador in jail while formal charges were a
nged. At the end of three years ninety count
ainst Aguirre's Christianity had been made: amongs
em, the accusation that he had said that if he rule
er a republic where there lived a cleric and a black

letter reached Spain a royal order had arrived in La Plata, appointing Aguirre as Governor of the provinces he had discovered, and as soon as he could equip a small expedition of 35 men who came to his banner the pioneer set out. He had not gone far when the Bishop sent a priest after him, ordering him to return to face new charges. Aguirre answered that now he was in "tierra larga" — open country — and going up to the cleric and looking him straight in the face, he asked him, "If I killed a priest, what punishment should I get?" With blanched face and hurried feet the cleric went back. But the troubles of Aguirre were not over. The hand of the Inquisition was still over him. He was eventually processed again, imprisoned for five years, deprived of the remainder of his fortune and of his Governorship, and when released made his way back to the beautiful bay where stood La Serena of his own foundation. He had lost three sons, a brother and three nephews, in the King's service, was a valiant and loyal pioneer, and died poor and lonely through the Tribunal's enmity.

The continuous petty persecution of another great pioneer, Pedro Sarmiento de Gamboa, forms a curious chapter in the story of the Inquisition, but in this case the protection of the Viceroy Toledo, and the strong character and invaluable services of the man attacked, outweighed the views of the Inquisitors. Sarmiento's historical studies, surveying and sea-discoveries in South Chile give him high rank among the Spaniards in the New World, but his scientific bent was heretical in the eyes of the Church. The event bringing Sarmiento under the suspicious eye of the Inquisitors was the death of the Viceroy, the Conde de Nieva, murdered in a street in Lima in February, 1564. His successor Lope de Castro was active in the investigation of the

mysterious affair, and Sarmiento, who had been an intimate of the house, was presently accused, not of complicity, but of knowledge of witchcraft. He had talked to a woman servant of the dead Count about a magic ink which made the writer of a letter beloved by the recipient: he had two rings engraved with astrological characters. Sarmiento's confessor had seen and guaranteed the harmlessness of the rings, but this did not save him from a sentence of naked penance in Lima cathedral, banishment from the Indies, and, until his departure, imprisonment in a monastery. Sarmiento complied with the penitential part of the decree, but appealed to the Pope and obtained a commutation of the banishment order. A few years later his discovery of the Solomon Islands added so much to his renown that upon the arrival of the new Viceroy, Francisco de

other than those dealing with the Christian religion and virtue, so afraid was Spain of any ideas reaching the Colonies. A letter from the King to the Casa da Contratación in Seville protested: "I have been informed that many books of romances are sent to the Indies, profane and foolish histories like that of Amadis and kindred productions; this is a bad practice for the Indians, and the kind of thing which they should not read nor be occupied with." It was with the same perfectly genuine and logical desire to maintain a dead level of thought and conduct that, shortly after the above decree was promulgated, a rule was enforced that no sons or nephews of people who had been burnt alive by sentence of the Inquisition, and no converted Jews, Moors, or other proscribed persons or "New Christians" should go to the Indies.

European Corsairs

The economical as well as intellectual fences put round the New World colonies of Spain were threatened most terrifyingly by the bold raids of corsairs. Preservation of these barriers demanded severe treatment of such persons as were caught in piratical attempts, the Inquisition acting in full accord with the civil authorities when, for instance, in the *auto da fé* held in Lima in 1592, four English sailors captured after the wreck of their ship off the island of Puna (at the entrance to Guayaquil) were paraded. Walter and Edward Tillert were imprisoned for five years before their execution; their companion Oxley was burnt alive after four years in the jails of the Holy Office; but the life of the eighteen-year Morley was saved when he was permitted to be a convert to Roman Catholicism — a grace denied his older associates, as the Inquisitors suspected the

genuineness of the change of heart experienced by men in the shadow of the torture chamber.

John Oxenham, friend of Drake, captured by a curious accident in Panama, was hanged in Lima with several of his sailors, their English heresy adding a useful weapon to the hand of the enemy.

A group of Dutch corsairs was brought before the Inquisition in 1615. These men were taken at the port of Papudo, having arrived with the fleet of Admiral Spilbergen, naval supporter of the Count Maurice of Nassau, whose wise rule was chiefly responsible for the Dutch hold upon North Brazil enduring for thirty years. The Spilbergen voyage is part of the story of Holland's plans for overseas dominions in the Americas, and one of the strokes of fate by which outposts of a nearly-won empire were successively lost.

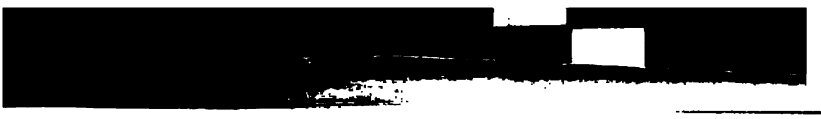
Mackenna relates another story of the debt owing to one Manuel Perez, also of Santiago. This Perez was burnt alive at Lima in 1639, but before his death told the Inquisitors that Martinez Gago of Santiago, a merchant, owed him a few thousand pesos. The Inquisitors sent to demand the money, but, finding that the debtor was already dead, placed an embargo upon the goods of his father-in-law and proceeded against that unlucky man. Then arose a score of other creditors of Gago, among them many influential clergy, and the story proceeds in a tangle of processes, demands by the haughty Comisario of the Inquisition in Santiago and deportations to Lima.

But by the end of the seventeenth century the power and prestige of the Holy Office had begun to wane, a decay due partly to the increase in its ranks of the number of native-born or "creole" officials. Posts had for long been a matter of personal privilege or commerce; but when local men of ambition bought offices almost openly and proceeded to use them as instruments for amassing a fortune, the Inquisition was laid open not only to hatred and contempt but to attack. José Toribio Medina remarks in his *Historia del Tribunal del Santo Oficio de la Inquisicion en Chile* (Santiago, 1890) that as a result of the lowered prestige of the Holy Office, its members began to show "moderation," even "humility," as when the Commissioner in Chile, 1797, humbly asked Governor O'Higgins to help him to secure the person of an accused man, who, living in Chiloé, might find friends to resist the Inquisition. The cases brought before the Tribunal abated to mere charges of witchcraft, and although the Inquisitors formally objected, in 1786, to the scandal of the teaching of jurisprudence, history and chronology by Dr. José Lasterria, they had not been able to prevent the

ng of a school of mathematics in Santiago, in

e last Commissioner of the Inquisition in Chile was osé Antonio de Errázuriz y Madariaga, a native of ago; his Treasurer, Judás Tadeo de Reyes y Borda, lso a Santiaguino who held the additional post cretary to the Governor of Chile. The ground was om under their official feet when the Congress of voted that the funds and income of the Inquisition d be used for "other pious purposes," this order cemented, despite the energetic objection of the urer, when the Spanish Cortes of 1813 abolished ribunal in Spain and her colonies. The estates ging to the Inquisition in Chile were some of the of the Central Valley, and were calculated at a of over one and a half millions of pesos.

on the restoration of that extraordinarily short- d monarch, Ferdinand VII, the Inquisition was cted in 1814, and under this authority Tadeo de collected about 1500 pesos in imposts, in 1815



munity. This work was undoubtedly performed with zeal: scores of the Chilean and Peruvian cases taken before the Tribunal had to do with the chastity of the priesthood, and irregular and coarse living on the part of residents. It cannot be said that the work of the Inquisition banished licentiousness from the Colonies, but the way of the sinner was made harder.

CHAPTER V

THE STRAIT OF MAGELLAN

First Navigators: Magellan, Sebastian del Cano, aysa, Alcazaba. — Sarmiento. — The City of ilip. — Cavendish. — Port Famine and Punta enas.

INKING of Chile, one sees a picture of southern rds and wheat-fields, of cattle pastures, of pine s; of copper mines in the inhospitable heights of nountains; or perhaps of the great, burning ni- pampas of the north. Rarely is a thought given e southernmost city in the world, Punta Arenas.

unfortunate Spanish settlers of Pedro de Sarmiento could not do: they have created a city in the wilderness, strongly-rooted, sturdy, with the spring of life from within.

The tale of settlement of the Straits of Magellan, today an accepted achievement, is built upon gallantry and tragedy. The thriving regions of Patagonia and Magellan Territory have been erected upon the ashes of the most cruel suffering.

The efforts of the Spanish crown to find a way to the golden East by way of the West which led to the discovery of the Strait of Magellan were but extensions of the hunt for Cathay that inspired the greedy fanatic Cristobal Colón. He died asseverating that he had found the coast of the Indies, and although the more level-headed navigators knew better the eyes of Spain continued to be fixed upon a route to the Spice Isles rather than upon the Americas *per se*. Reached from the west, Spain could lay an anti-Portuguese claim by virtue of the famous Bull of Pope Alexander VI of May 4, 1493, which, placing a line 100 miles west of the Azores, acknowledged all discoveries eastward as Portuguese and all westward as Spanish.

Fernão de Magalhães, as Captain-General, with Estevan Gomez as Chief Pilot, sailed in the *Trinidad*, of 110 tons, from San Lucar on September 12, 1519. Four other smaller vessels completed the expedition of discovery — the *San Antonio*, the *Victoria*, the *Santiago*, and the *Concepción*. The latter was commanded by Gaspar de Mendoza, with, as master, Sebastian del Cano, destined to be the first circumnavigator of the globe. Magellan, Portuguese-born, shipped a large number of his countrymen in defiance of the orders of the King of Spain; Sebastian del Cano, a Basque hidalgo, took eight other Basques in the *Concepción*.

quickly broke out, and an outbreak off the
n coast resulted in the murder of Mendoza,
tion of Quesada, the marooning of another
er and a too-active priest. The *Santiago* had
at the entrance of the Santa Cruz River, and
remaining personnel and vessels captained to
king, Magellan proceeded south.

ober 21 he sighted and named the Cape of
housand Virgins, at the opening of the Strait.
van Gomez, now on board the *San Antonio*,
red the captain and persuaded other men
isapproving of Magellan's actions to turn
y sought, vainly, the men marooned at San
d sailed back to Spain. Meanwhile Magel-
ted the stormy waters of the Strait, emerged
oisterous Pacific, made for the Philippines
was killed in a native feud; the slaughter of
e others of the expedition made it necessary
of another vessel, the *Concepción*, while the

of arms granted bore a globe as crest, with the motto *Primus circumdedisti me.*

Portugal was roused by the exciting story of the *Victoria's* feat and her return laden with cinnamon, cloves, nutmegs, mace and sandalwood. To understand the feeling roused it is necessary to remember the extent to which mediæval Europe was dependent upon spices for rendering foods palatable. Sugar was not then in general use, and honey, scarce and expensive, was the chief sweetener. Meat was preserved with salt, and its untempting quality was redeemed by Eastern spices. Puddings were saturated with the same heavy aromatics; wearing apparel and beds were perfumed with them. It is a taste that has yielded before the skill of the distiller and the synthetic chemist, and the general development of a "sweet tooth," but it was sufficiently enthusiastic during the Middle Ages to warrant international disputes.

Following Sebastian del Cano's exploit, therefore, need for a decision as to the ownership of the Moluccas became acute: finally, the King of Portugal and Charles I of Spain arranged the Conference of Badajos to settle the matter, taking the evidence of the best navigators, cartographers and pilots. Meetings began in early 1524, continued for five years without result, and were ended when Charles V sold his claim in April, 1529, to the Portuguese for 350,000 ducats. This sale worked a hardship upon the plucky Spaniards engaged in trying to uphold the Spanish flag in the Islands, for meanwhile a new expedition under the Comendador Garcia de Loaysa, with Sebastian del Cano as second in command, was fitted out to follow the same course as Magellan's to the Spice Isles and to rescue the survivors of the *Trinidad.* They set sail

Coruña in July, 1524, reached Cape Virgins in
ary, encountered the usual terrible gales off the
t, lost a ship, and saw tall Patagonians, dressed
anaco skins, with headdresses of ostrich (rhea)
es. They noted the laurel-like leaves of Winter's
with its sweet scent. In bad condition, with the
boats destroyed, they went north to the Santa
River; repaired them, returned to the Strait,
inally got out into the Pacific in May, 1526. Be-
the wreck of the *Santi Spiritus* they had now
deserted by two other ships, so that only the flag-
Victoria, the caravels *Lesmes* and *Parrel* and the
ce *Pataca* reached the South Sea. Of these, the
a found her way to Mexico, and the *Lesmes* dis-
ired.

oken down by hardships, Loaysa died at sea on
30; and six days later the great navigator Se-
n del Cano also died. When the survivors reached
Moluccas at the end of the year they had buried
en in the Pacific since leaving the Strait, 105 re-
ng to carry on unsupported contest against the
guese in the islands. In 1532, when the aban-
ent of the Spanish claims was definitely known,
paniards surrendered to their rivals and a few
vors did eventually get back to Spain, including
ble captain Andres de Urdaneta, whose careful

and to extend 300 leagues. Alcazaba's grant included the present Argentine Patagonia, and was called Nueva Leon; the narrative of the Veedor Alonso has been preserved and tells of the misfortune, crime and suffering that seemed to pursue every expedition to the troubled waterways.

With two ships, Alcazaba set sail from San Lucar in September, 1534, reaching the entrance of the Strait four months later; the weather was threatening, so after stocking up with 300 penguins they sailed north to parallel 45, and anchored in the Puerto de Leones, which Alcazaba considered as in the middle of his land grant, and from which he proposed to march overland. They started on March 9, marched some thirty-six miles in inhospitable country "desert and uninhabited, where we found neither roots nor herbs to use as food, nor fuel to make a fire, nor water to drink." The Governor, stout and old, had to turn back with a captain, while the rest went on until having marched 300 miles in twenty-two days, with nothing but desert still in sight, they decided to return to the ships. They had lived on the roots of big thistles, wild celery and fish.

During the return journey two captains, Arias and Sotelo, mutinied, and the expedition straggled back in disorder, losing more than fifty men on the way. Arias and his friends reached the coast first, swam to the flagship, murdered the Governor and pilot, then seized the second ship and robbed both. Quarrels broke out between the two ringleaders, Arias wishing to turn the flagship into a roving privateer while Sotelo[1] preferred to go north and join, at the Plata, the expedition of the Governor Pedro de Mendoza; the loyalists were able to turn the tables on them, retake possession of the vessels, and to appoint new officials. The latter

[1] Founder of the City of Buenos Aires, 1535.

and sentenced the mutineers; some were hanged
e yardarm, others thrown overboard with weights
l their necks, and others "banished on shore for
ears." At last, with provisions exhausted, they
il in July for Brazil, reached Bahia, where a ship
vrecked and eighty men killed by the natives, the
vors reaching Santo Domingo in September, 1535.
ded the first Spanish official attempt to colonise
xtreme south of Chile.

th the Spice Isles definitely abandoned, the route
e "South Seas" discovered by Magellan was still
ble as offering an all-sea route to the coast of
and the next expedition was sent from Spain at
nstance of the Viceroy of Mexico, Antonio de
loza, in 1539. At this time, and for many years
me, the chief route to Lima was by the fever and
infested Isthmus of Panama, and the vessels
in the Pacific were brought in pieces and set up,
ter, built of native timber, chiefly at Guayaquil.

Valdivia to report to the Governor, Don Garcia Hurtado de Mendoza.

Sarmiento

In 1579 the West Coast was electrified with the appearance of Francis Drake in the *Golden Hind*, and when it was said that he had entered the Pacific by way of Magellan Strait the Spanish determined to fortify and close the passage to all foreign vessels. It was still believed that south of the strait lay a great continent, divided from Patagonia only by narrow waterways.

With a view to shutting the channel, the Viceroy of Peru, Francisco de Toledo, equipped an expedition under the command of Captain Pedro de Sarmiento de Gamboa, to survey the southerly regions and sail through the Strait to Spain. Sarmiento was a fine seaman, with the discovery of the Galapagos Islands already to his credit, an acute observer, good historian, and a tireless and resourceful leader. He remarks, in the beginning of his narrative, that it was then "held to be almost impossible to discover" the entrance from the Pacific side, "owing to the innumerable openings and channels which there are before arriving at it, where many discoverers have been lost who had been sent by the Governors of Peru and Chile." Even the people who entered from the North Sea (Atlantic) "never succeeded. Some were lost, and others returned, so tossed about by storms and uncertain of what could be discovered, that there was a general dread of that navigation." The viceroy's object now was to dispel that fear, and to find the best means of closing the Strait; Philip II's suggestion of a stout chain was no doubt considered.

o ships were selected and fitted; the crew of 112 collected with difficulty, for "nobody wished to rk, and many ran away and hid themselves," but xpedition set sail on October 11, 1579, from Callao. ovember 11 they had sailed 573 leagues, and were iloé; ten days later Sarmiento formally took pos- n of land off what is today called Wolsey Sound; climbing to the top of a very rugged mountain, found it easier to "go along the tops of the trees, branch to branch, like monkeys" until, reaching op, they counted 85 islands in the broken archi- o below. Deserted by the second ship, Sarmiento , in the flagship, *Nuestra Señora de Esperanza*, his nto the Strait on Feb. 2, 1580, after much experi- of bad weather when surveying the westerly chan- and next day made another formal landing and amation of possession. They got into touch with ns, who told them by signs of the visit of other ed strangers, probably the men of Drake's three it was not until February 9 that they encountered

Balmaceda Glacier, South Chile.

In Smyth Channel, heading North from Magellan Strait.

and single colonists, the former taking their families with them. Two forts were to be constructed in the First Narrows, each garrisoned with 200 soldiers. With the expedition also went the new Governor of Chile, Alonso de Sotomayor, taking 600 married and single men as settlers. Twenty-three vessels, carrying 3000 people, comprised the imposing fleet that sailed from San Lucar on Sept. 25, 1581. Sarmiento himself went as Governor and Captain-general of the Strait, with command over the forts and settlements; but until they arrived the chief authority lay with Diego Flores de Valdes, commanding the fleet, an unfortunate choice on the part of the Crown, for Flores would not work with Sarmiento, and seems to have been a coward. The ruin of the expedition was certainly attributable in part to his actions.

Ill luck dogged them from the start. A storm assailed the fleet outside San Lucar, and five ships, with 800 men, were lost; of these, 171 were settlers, out of 357 who set out for the Strait. Another frigate was lost as they left Cadiz on December 9, and on the voyage to Rio de Janeiro, where they were to winter, 150 people died. During the fleet's stay in Rio, from March to November, 1582, another 150 died, and others deserted; an unseaworthy ship had to be sunk here, 16 vessels eventually sailing south, in poor condition. A few days later a large ship, the *Arriola*, sank with 350 people and quantities of stores, and the *Santa Marta* followed her; and from this time Diego Flores almost openly tried to impede a farther voyage southwards. He insisted on leaving three ships, with soldiers, settlers and stores, behind at Santa Catalina Island; another vessel was lost on leaving the port; and the next loss of help was occasioned by Alonso de Sotomayor's decision to disembark at the River Plate and march overland to Chile,

ad of aiding with erection of forts and settlements
e Strait. He took three ships and many of the
nishing stores intended for the new colony; and
the Strait's entrance was reached at last there
left only five vessels of the twenty-three that sailed
San Lucar. When strong winds and currents were
ntered, Diego Flores put his ship about and
ly fled, signalling to the other ships to follow him
to Brazil. Arrived in S. Vicente (Santos) they
l two of the three ships that had been left at Cata-
Island, the *Begoña* having been sunk by English
es, while the officials were openly selling the
ts stores in the town and the wretched intended
rs were bartering their clothes for food. Sarmiento
l what he could, was rejoiced to find four vessels
from Spain with new provisions for the Straits,
after Diego Flores had definitely refused to go
again (sailing north with a large quantity of pro-
ns and all the men he could induce to desert),
iento left Rio on Dec. 2, 1583 with five vessels

as pleasant as conserved pine nuts; and quantities of small black berries, probably the fruit of the berberry (*Empetrum rubrum*) or the myrtle (*Myrtus nummularia*) that still abound on the mainland and islands of the region. The ephemeral settlement was bravely named the "City of the Name of Jesus," with due ceremonies of sod-turning, and the burial of coins and witnessed documents; an altar was set up and the litany sung by a procession. Streets and plazas were marked out by Sarmiento, and huts of grass and poles, earth-covered, built; beans, vines, fruit trees and seeds from Spain were planted near the sweet springs. Meanwhile the settlers had to subsist partly on the inadequate fish they could catch. The ships lying at the mouth of the Strait were a constant anxiety, driven out repeatedly by gales, and at last the *Trinidad* ran ashore and was lost. Alarmed, the admiral, Diego de la Ribera, took three of the remaining four vessels and fled north, carrying the remainder of the provisions, and many settlers. Ribera made no farewells and did not wait for the formal despatches of Sarmiento for the King; it was a mean desertion of gallant countrymen.

Sarmiento rescued the stores from the *Trinidad*, put the colony into a fair state of defence, with a rampart, arquebuses and guns, against the audacious natives who frequently attacked with arrows, and then sent the remaining ship, the *Maria*, into the Strait with instructions to make for Cape Santa Ana, while he took a part of 100 soldiers by land to the same spot in order to found a second settlement.

They set out on March 4; two weeks later their track was to be followed by a party of thirty or forty others. It was a hard journey through utter wilderness, and Sarmiento remarks that in forty leagues they saw neither a human being nor signs of fire, although when

traversed the Strait on his voyage from Peru
ints were full of smoke. They saw deer, skunks,
ultures, found berries, and at the coast obtained
sh and edible sea-weed, but were short of fresh
as the streams flow under the sands when ap-
ing the Strait; at the First Narrow Sarmiento
a suitable spot for a fort, with nearby pasture
very pleasant to behold, with grass suitable for
" an observation which was proved correct three
ed years later. They noticed whales' bones in a
eyond the first Narrow, and quantities of large,
hing mussels.

natives, naked, armed with bows and arrows and
panied by fighting dogs, met them near Gregory
pretended friendship, but later tried to ambush
paniards. Several Spaniards were wounded, and
lled, but Sarmiento killed the Chief with a sword
and the attackers fled. After seventy leagues'
ing they reached the wooded country, where the
l people" lived. But the expedition suffered
hunger and fatigue, and several men, discouraged,
way to the woods and were never seen again. On

¼ of beans, and a little salt meat, dried fish and bacon. At the end of April, clay-coated huts were ready for the approaching storms of winter; vegetable seeds had been planted, the city palisaded and defended by 6 guns, mounted on platforms. On May 25 Sarmiento embarked in the *Maria* with thirty men, arrived outside the City of the Name of Jesus on the same night, sent to and received messengers from it, but was driven out to sea by a furious twenty-day storm before which he was forced to run north. He could not return, and reached Santos on June 25, with all food long exhausted and the starving men, some of whom were blind and frostbitten, gnawing their sandals and the leather of the pumps.

He left for Rio on July 3, got help from Governor Salvador Correa and sent a ship laden with flour to the Strait; went to Pernambuco and Bahia, where his ship was wrecked and he got ashore on a couple of planks. The Governor received him kindly, gave him a ship of 160 tons, and a load of mandioca flour, cloth and provisions for the settlement. With this ship he sailed to Espirito Santo (Victoria Port), got dried beef and cotton cloth, and proceeded south in mid-January, 1585, to visit his settlements. But in 33 degrees of south latitude a frightful gale burst upon them, most of the sheep, flour, etc., had to be thrown overboard, and the battered vessel made her way back to Rio after fifty-one ruinous days, finding here, as a final blow, the ship despatched to the Strait with flour in December, put back on account of terrible weather. At the end of his resources, and unable to get further help from the well-disposed Portuguese Governor, Sarmiento determined to go to Spain to report; but on his way he was captured (August, 1586) by the little fleet of Sir Richard Grenville returning from Virginia,

taken to England. Here he was received by
n Elizabeth, who conversed with him in Latin
wo hours and a half, with Lord Burleigh, and was
ally well treated by Lord Howard and Sir Walter
gh, who gave the old sailor a present of 1000 es-
and helped him to obtain a passport. He was,
ct, used most kindly, and probably carried con-
ory messages to Philip II. But his ill-luck fol-
him relentlessly; while crossing France in De-
er, 1586, he was imprisoned, and a big ransom
nded. Sarmiento was compelled to appeal to the
of Spain, and when the 6000 ducats and four
horses had been provided he was released, in
ber, 1589, grey-haired and crippled, after nearly
years' confinement in fetid dungeons "in infernal
ess, accompanied by the music of toads and rats."
rst act was to make his report to the Crown, beg-
for help to be sent to the settlements in the Strait.

garding the fate of the settlers, but bore solely upon topographical points, questions of winds and currents, products of the regions, etc. But reading between the lines of the declaration, the tale is heart-rending. It was made by order of Don Francisco de Borja, Prince of Esquilache, the son of a canonised father, and himself a poet, scholar, and excellent Viceroy, the founder of a college for noble Indians.

Hernandez gave an ingenuous and straightforward account, from the soldier's viewpoint, of the objects and fortunes of the expedition, of the founding of the City of Philip and the departure of Sarmiento to fetch the colonists of the first settlement, an attempt from which, so far as the settlers of the second city were concerned, "he never more returned," as Hernandez simply said. Two months after Sarmiento had gone, the people from Nombre de Jesus came to join the City of Philip. It was then August, and they told of the storm that blew Sarmiento's ship out to sea. Andres de Viedma was now in charge, and he tried to provide for the hunger of the settlers by organising 200 soldiers into a band of shellfish-hunters.

During all the winter and the following summer they waited, hoping for help, and with no food but the wild berries and such sea-food as they could secure. Then they built two boats, and the survivors, fifty men and five women, started out towards the eastern end of the Strait. But, no sailors, they could not navigate well, and one boat ran ashore and was lost; the surviving boat could not carry all the people, so some returned to the City of Philip and the rest scattered along the shore to pick up shellfish to preserve their lives during the winter.

When summer came, Viedma assembled the survivors, fifteen men, and, astonishing witness to mental and

cal endurance, three women. "All the rest had of hunger and sickness." They agreed to return e first settlement, as nearer possible rescue, and to make their way by land, finding many dead s of their comrades by the way. Twelve miles d Cape Geronimo they saw four ships, which thought were Spanish, but which were actually oats of Cavendish. A boat came off to the , and the settlers were told the nationality of the and offered a passage to Peru; the men on shore d that they were afraid of being thrown over- , getting the response that they might well em- as those on the ships "were better Christians we were." After some parleying Hernandez was aboard, to Cavendish himself, who, upon hearing these folk were survivors of the settlement, said uld take them all in his vessels. But this, in the he did not do, taking advantage of the rare good er in the Strait to go to Penguin Island for birds,

excuse were needed besides the fact that he did not know their desperate plight, it exists in the ungrateful conduct of the one man he took away, whose thanks took the form of sending a number of his helpers to the scaffold.

Of the fate of these last members of the large band of settlers who had set out from Spain with such high hopes, we know only that in 1590 one man signalled to the *Delight* of Bristol, was taken on board, and died on the way to Europe, without leaving his name or story. But whether they died of starvation or were taken into the roving camps of Indians, their blood was lost, although traces may have been mingled with that of the natives, who were not invariably hostile. Hernandez, answering his questioners in Lima, stated that for three months a Spanish woman, captured on the seashore by the Indians, was kept by them, but that then she was sent back. Savage nomads, perpetually short of food, the Indians of the Straits had nothing with which to hold nor help the unfortunate Europeans.

Port Famine and Punta Arenas

A brief side-light is thrown upon the settlement by the records of Cavendish's expedition. He was in "King Philip's Citie" on January 9, 1586, and gave it the name of "Port Famine" by which the spot was ever afterwards known. The town was full of dead people, the bodies lying clothed in the houses, and the explorations of his sailors resulted in finding only "muskles and lympits" for food, with a few small deer. In 1600 the Dutchman, Oliver Noort, came this way and saw Port Famine, but Purchas' account says that "heere they found no footprints of the late Philip-Citie, now liker a heap of stones."

t today, a few miles to the northward, stands the erous city of Punta Arenas. Its sturdy existence ies, after three and a half centuries, Sarmiento's that this stormy region was neither unhealthy unproductive, and that a colony of white men live there securely were it properly supported.

CHAPTER VI

THE TACNA QUESTION

The Storm Centre. — Indeterminate Position of Tacna. — Peru and Chile. — Boundary Problem. — Guano and Nitrate. — The War of 1879. — Treaties. — Appeal to the League of Nations. — Discussions at Washington.

TACNA is the political storm centre of the Pacific Coast of South America. It is a little province consisting chiefly of sun-bleached desert scored by a few extraordinarily fertile valleys, lying north of the great nitrate area of Tarapacá. It is tilted to the sea, the coast range diminishing to a tawny cliff's edge, and rises to long interior plains that merge into Andean spurs, with the Bolivian province of Oruro just across the snow-crowned mountain wall. The area is 23,000 square kilometres; the population was estimated in 1919 at 40,000, and counted as a thousand less in 1920, a diminution probably due to the departure of Peruvians.

This territory's fate has been indeterminate since the close of the War of the Pacific, 1879–83, and with its fertile causes for agitation has been the focus of endless quantities of argument emanating mainly from the former owner, Peru, to whom no solution is declared to be satisfactory but the unqualified restoration of the province. The interest of Bolivia in the matter is also recognised: she has brought her need

new outlet to the Pacific before the League of
ons, although without result; and while there is
in the reminder of Chile that Bolivia was able
ake little or no use of the Antofagasta littoral
in her possession, and that her great prosperity
from the time when she lost it and obtained as
d of solatium an efficient railroad, national pride
a political group of La Paz to make recovery
coastal strip one of the planks of the oratorical
orm.

tween Bolivia and her two sister republics of the
there is no ill-feeling. She trades freely with
and in particular has derived a great deal of
ical and financial help from Chilean men of en-
ise in developing important mining regions.
ia's relations with Peru are equally friendly, al-
gh intellectual rather than economic; but the
r's experience of Bolivia has developed the opin-
hat Bolivians are extremely unlikely to do what

easier and more [illegible] articles and [illegible] Chilean origin. [illegible] ation is a standing [illegible] the path of the mediator is not [illegible] postponement.

Arica port, a [illegible] little oasis in the desert, was the centre [illegible] silver came [illegible] Charcas Province [illegible] the Viceroyalty of Buenos [illegible] port. [illegible] also [illegible] stopping-place [illegible]

The desert [illegible] the [illegible] are connected [illegible] no other [illegible] mountains [illegible] important [illegible] name, and [illegible] villages of [illegible] dean [illegible] lama is still the chief means of transport.

Nitrate has not been found in workable quantities in Tacna province, nor any precious mineral deposits of consequence, although [illegible] and copper are known. The value of the territory [illegible] Chile as one province, Tacna, [illegible] square kilometres in area, with three departments, Tacna, Arica and Tarata, and the city of Arica as the chief centre of the province, is thus not great, until irrigation permits agricultural development upon a big scale. But strategically it acts as a buffer between Chile and Peru, and it was with the object of erecting such

ffer that Chile refrained from doing what her nant position after the War of the Pacific per- d, taking the little provinces finally, at the same that she secured Tarapacá, a region enormously n nitrate.

ru was obliged to accept definitely the cession of pacá: that loss is beyond discussion. But the erminate position of Tacna permits national feel- rritation and sentiment full sway.

is common to hear of the old unity of Peru and , of the mutual sacrifices during Independence gles, their like origin and present intertwined in- s. Undoubtedly, the two states are commer- necessary one to the other; the traders of the unities are little disturbed by political aspects own a brotherly kinship so far as the Spanish age, religion, and culture are concerned. But are also marked divergences. There has been

the Araucanian wars, created irritation that was not all on one side.

Peru was rich and proud, Chile and Buenos Aires were comparatively poor: yet from the two latter political independence from Spain arrived, borne upon the swords of San Martin's army. An ocean of tact has been needed to smooth similar situations in other regions and times, and San Martin's arbitrary conduct, although objectionable to Chileans and Peruvians alike, did not ease the situation. Later, when South America's freedom from Spain had become a fact accepted by the world at large, a result due in great measure to Canning's long vision, the eyes of the new countries turned to their nebulous boundaries. Settlement of the exact frontiers has been so difficult that the disputes and efforts of a century have not, in some cases, yet decided the question. When all was Spain's, the limits of separate provinces or viceroyalties was of secondary importance; the hinterlands were frequently wooded, mountainous, or desert country, where none but Indians penetrated. It has only been since forestal products such as quinine and rubber were valorised, the worth of the commoner metals enhanced by great industries, that great interior regions of the southern continent have acquired interest, and the marking of boundaries has become a burning question.

In Chile's case, her area as a province or "kingdom" during Spanish times included the present Argentine provinces of Mendoza, San Luis and San Juan, and all Patagonia. The three first-named provinces went, with Charcas (part of the modern Bolivia), to Buenos Aires when that Viceroyalty was erected in 1776, but the possession of Patagonia and the islands below the Strait of Magellan remained a fertile source of dis-

ment with Argentina, narrowly averting war, until
A treaty then made between the two countries
a line in the Andes as the boundary, to follow the
st peaks dividing the rivers, while all land south
e fifty-second degree of south latitude went to
, except the eastern part of Tierra del Fuego.
agreement was found indefinite; the water-parting
he highest peaks were discovered to be frequently
stant from each other, and the exact boundary
only settled in 1902 when the award of King
rd VII fixed a new line, by which 54,000
e kilometres of the disputed area was assigned
ile and 40,000 to Argentina. One small point
remains unsettled — the question as to the exact
on of the eastern entrance to Beagle Channel,
ving possession of Picton, New and Lennox
ls. The senates of Chile and Argentina agreed
5 to abide by an award to be made by the British
rnment.

to 25° 10′ in the centre of the Atacama desert, and here touches Chile" — Atacama then, as part of Charcas or Alto Peru being included in the Peruvian Viceroyalty — and in 1776 the northern edge of Chile seems to have been accepted as touching the little town of Paposo, in almost the same latitude. But that there was haziness regarding the precise border is indicated by the fact that Fitzroy's map of 1836, and Ondanza's of 1859, and that of Pissis, 1860, all show differing boundary lines for northern Chile. Had the Paposo latitude been definitely accepted by Chile and her sisters, it is inconceivable that Bolivia would have failed to denounce energetically in 1866 the Chilean claim to territory as far north as parallel 23.

By this time the South American countries were prosperous in the huge development of commerce with the world at large, and the West Coast had entered upon a new era; there was an enormous extension of copper and silver mining, guano was feverishly exploited by Peru with great profit from 1841, and there was a developing business in nitrate, shipped chiefly from Iquique and Pisagua, in Tarapacá. In the attack by Spain upon Peru the four countries of Ecuador, Peru, Bolivia and Chile were united in resistance, and causes for trouble appeared remote. It was now that a glimpse of the hidden wealth of Atacama was revealed. Two enterprising Chilean engineers, Ossa and Puelma, seeking copper in the burning desert, obtained from President Melgarejo of Bolivia a wide concession to operate in the territory, which was neither surveyed nor utilised by Bolivians at that time, commerce to and from Bolivia still following the Arica, or Arequipa and Mollendo, route. With industrial development in sight the question of boundaries became acute, and Chile laid a formal claim to all land south of parallel 23.

a admitted the prevailing lack of certainty con-
limits by compromising; Chile's boundary was
24° s. l., while the two countries were to share
receipts from the belts 23° and 24°, and 24°
s. l. The arrangement did not work well, and
ntually revised in 1874 and a new arrangement
which Bolivia agreed not to levy taxes upon
industries, nor to impose new customs dues on
for the next twenty-five years.

eanwhile a great development was taking place.
the silver mines of Caracoles were discovered,
to the locality ensuing. With 4000 claims
and a tremendous stream of miners, transport
ded, and a British-capitalised and operated
registered in Chile, the Cia. de Salitres y
riles de Antofagasta, took over the rights
originally to Ossa and Puelma, built a port
fagasta and a railway to the mines, and
presently working newly discovered fields

decreed a duty of ten centavos per hundredweight on all nitrate exported. Both Bolivia and Peru were, it is frequently contended, within their rights in making laws dealing with their own territory: the duty suggested by Bolivia was, it is true, but a fraction of what the industry subsequently yielded. But the developing companies were exasperated at what they considered attempts to revoke rights already conceded, and to stifle nitrate production in Antofagasta. The fact that Bolivia and Peru were financially embarrasssed following periods of internal disturbance and large spending did not ease the situation.

Trouble might have been averted with mutual concessions had it not been for the high-handed act of Bolivian officials who, in December, 1878, demanded a large sum in back taxes from the Antofagasta company, and upon the refusal of the English manager, ordered the seizure of the company's property. The match had been set to the gunpowder. Chile immediately seized the ports of Antofagasta, Cobija and Tocopilla, and by February, 1879, all the Bolivian coast was in Chilean hands militarily as, previous to that time, it had been in Chilean hands economically.

Peru offered to mediate, suggesting neutralisation of Antofagasta port under the triple guarantee of Bolivia, Chile, and Peru, and new disposition of the territorial revenues; but Chile, aware of the secret treaty of 1873, demanded first the abrogation of that pact, and next the cessation of all warlike preparations by Peru and a declaration of her neutrality. Peru declined, and war was declared upon her in April, 1879.

At this time the population of Peru and Bolivia jointly was double that of Chile, and she was comparatively a poor country, without either mineral or

agricultural wealth. But the Chilean navy was ent and her men were hardy campaigners and rs, as Peru, aided by Chilean troops in the war of endence and at the time of the forcible seizure ruvian territory by Santa Cruz in 1837, well knew. e course of the war was disastrous from the be- ng to the two allied states. Bolivia was never to recover a foot of the coastal strip, and was l to confine her efforts to contributions of men naterial in the series of battles in which Chilean s were almost invariably successful. When Chile roken the small naval power of Peru by the sinking e ironclad *Independencia* and the capture of the *tar*, the allies had but two wooden vessels, the *nayo* and the *Union*, with which to defend the The former was taken late in 1879, the latter d seizure until the end of the war: but practically ea-ways were in control of the Chilean navy, d by the *Blanco Encalada* and the *Almirante*

allies held out, notably at Tacna, captured after a desperate struggle at the end of May. Arica was finally taken in June, the north coast held in submission, and the blockade of the chief ports rigorously maintained. This war was the first in which torpedos and torpedo-boats were actively employed, and while the new inventions enabled Chile to carry out naval operations with marked effect, Peru did her best to protect Callao by mooring hundreds of torpedos in the bay, and succeeded in blowing up two Chilean ships, the *Covadonga* and the *Loa*.

North American attempts at mediation resulted in October, 1880, in Chile stating her terms — the cession by Peru of Tarapacá, the relinquishment by Bolivia of all claims upon the coast, and payment of an indemnity; and occupation by Chile of Tacna, Arica and Moquegua until the first-named conditions were carried out. Years later, after much more bloodshed, ruin and misery, the allies accepted terms practically similar; but they rejected them in 1880, and Chile organised for the taking of Lima. After a fierce battle in which the Chileans are said to have lost 1300 and the Peruvians 6000 dead, the capital was captured in January, 1881, and occupied by Chile until terms were arranged by the Treaty of Ancon in 1883. This arrangement was made only between Chile and Peru, followed by a truce with Bolivia in 1884 and a definite peace treaty signed in 1904.

Chile has been blamed for making hard terms with the two sister states, but the fact is undeniable that despite the struggle made by the allies, to which Chilean historians have frequently given credit, they were utterly out-fought. Chile was completely victorious on sea and land, and she took the fruits of victory; she had, she considered, been menaced, and she disposed

of future menace. If she was severe, she had many great examples to follow. It is at least a little curious to find the United States, with the record of acquisitions of Mexican territory, constantly raising a minatory finger to Chile. This finger appeared during the progress of the War of the Pacific, and upon several subsequent occasions including a curious incident in 1920, when a flutter of local feeling on the West Coast was made the occasion of a tactless message from the State Department. These admonitions are resented by and are embarrassing to no one more than American *comerciantes* and miners operating in Chile. It is unfortunate both for the United States and the peace of the West Coast that a non-comprehension of Chilean intentions and sentiment should not only add fuel to the flame, but should keep alive ideas of forcible inter-

ing questions with Peru, and the display of a frank and moderate appreciation of Peruvian feeling. But while Bolivians in general have accepted their loss, for Peru the war is not yet over. This is chiefly due to the Tacna barrier.

Tarapacá, rich in nitrate and metals, was ceded to Chile absolutely, but the little provinces of Tacna and Arica went under Chilean control with the proviso that a plebiscite, to determine by popular vote the final ownership of the region, should be held after ten years — i.e., after 1894; the gainer of the territory promised to pay ten million pesos to the loser. This plebiscite has never been held.

In 1894 the two countries mutually agreed to a postponement, and attempts to hold the plebiscite later have been frustrated by the difficulty of arranging voting conditions. Questions as to the nationality of the persons permitted to vote, and of the constitution of the tribunal of judges, have long awaited solution. Chile has repeatedly declared that the Chancellery of the Moneda is ready to hold the plebiscite, and meanwhile occupies and develops the territory, creating irrigation systems and planning vast extensions of sugar and cotton production. Since there were in 1907 in Tacna out of a total of 25,000 people only 4000 non-Chileans, it can scarcely be doubted that the result of a plebiscite held, let us say, in 1923, would leave Tacna definitely under the Chilean flag.

In November, 1920, Peru and Bolivia asked the League of Nations assembled at Geneva to examine the treaties signed with Chile in 1884 and 1904 — with a view to obtaining international influence in the direction of modification of terms. Peru afterwards withdrew her request, while the commission appointed to consider Bolivia's case came unanimously to the con-

n that no intervention was possible in the case definitely signed treaty, handing down this deci- in November, 1921. But the Chilean delegate, Agustín Edwards, made it clear that Chile was s ready to discuss amicably with Bolivia any sug- n for the economic improvement of Bolivia's po- compatible with Chilean interests, and the way aved for friendly discussions.

ortly afterwards Chile made a direct offer to the ian administration (in the absence of diplomatic sentatives) that the plebiscite should be held in d with the terms agreed upon during discussions 2, when 1923 was fixed as the voting year. Peru ot find this suggestion acceptable, in view of the hat Chileanisation of Tacna proceeds with such ty that the Peruvian vote would be practically xistent. All children born in the province since are counted as Chilean citizens, and the exodus ult Peruvians from this and other regions has

Conversations between the able diplomats of the two countries took place in Washington during May, 1922, but without a decisive result, the delegates announcing early in June that no agreement concerning the holding of the plebiscite in Tacna had been reached.

The break-up of the conference appeared to be inevitable when the United States Government, in the person of Mr. Hughes, Secretary of State, offered to exchange its position of benevolent host of the delegates to that of mediator. An interchange of suggestions took place between Chile, Peru and the United States, ending in a hopeful agreement signed by the two former in July; this agreement terminated the first stage of the road to peace, and practically amounted to the acceptance of arbitration.

The immediate question laid before the American arbitrators is whether or no the plebiscite should be held, and, if so, upon what terms the voting should take place. But it was further agreed, Chile cheerfully accepting a Peruvian suggestion, that if a decision should be reached precluding a plebiscite, nevertheless negotiations should be continued under United States auspices, with a view to another form of settlement.

At the time of writing, a close study is being made in Washington of the historical, political and economic aspects of the situation, and an interval of some months must take place before any decision is announced. But the outlook has undoubtedly been lightened by the very fact of amicable discussions having taken place between the delegate of the two countries, and a newer and more friendly atmosphere promises the lifting of the forty years' old shadow.

CHAPTER VII

MINING

The Nitrate Industry. — Copper. — Iron. — Gold Silver. — Coal. — Petroleum. — Borax, Sulp Manganese, etc.

INTERNATIONAL agriculturists did not begin to cal nitrate of soda until the scientific study of soils seriously attempted and experiments demonstra the value of this chemical as a crop fertiliser. Yo countries may produce grain and fruits from soil t is almost untended, but some soils of special charac istics, and old lands cultivated for two or three th sand years, respond gratefully to the stimulus off

fifteen miles inland from Iquique. Early voyagers upon the coast noted that the gunpowder of Peru was better than that made in other parts of the colonies, and penalties were inflicted to prevent the illegal extraction of nitrate by unauthorised persons. Juan and Ulloa, writing in 1741, speak of the contraband gunpowder manufacture carried on near the *salitre* (nitrate of soda) field of Guancarama, and the efforts of the Lima treasury to stop similar use being made of the beds near Zayla. The good fathers of the religious missions had another destination for the explosive; it was used to make the immense quantity of fireworks burnt at times of festival, a custom that is not yet extinct in Spanish America.

A simple method of obtaining the nitrate of sodium from the rocky beds of mixed composition (the *caliche*) was employed by these early manufacturers, who used chiefly Indian workers. The whitish, hard substance was broken up into small pieces and thrown into huge copper cauldrons filled with boiling water. When the caliche was dissolved the liquor was dipped off with enormous spoons into first one and then another vat, and there it crystallised.

Exactly the same principle is the basis of the modern method. The caliche yields to dynamite charges, successor of the pickaxe; is brought to the nitrate plant (*oficina*), in wagons instead of being laboriously carried on the backs of Indians; the copper cauldron is replaced by a large tank, and coils containing steam at a high temperature are passed through the water; the liquor is drawn off by pipes at a carefully considered moment, and the final drying process takes place upon prepared cement floors; coal or oil fuel is used instead of wood. There is less waste of material today and the quantities produced are immense: but the ancient empirical ni-

extractors were not very far wrong as regards
n.
er independence from Spain, small sales of nitrate
eign countries commenced, for the manufacture of
acid; 800 tons were exported in 1830, but in the
ear period between 1840 and 1844 an average
)00 tons was maintained. Shipments rose steadily
the introduction of new methods in 1855, when
was first used in the dissolving process and the
uction of vats was changed from the system of
By the year 1869 nitrate exports had risen to
115,000 tons a year; in 1873 the figures reached
85,000 tons; in 1876, to more than 320,000 tons.
er the War of the Pacific left Chile with the
an fields of Antofagasta and the Peruvian beds
rapacá in her hands, a tremendous impetus was
to the nitrate industry. Great amounts of foreign
l were brought in, railways and ports constructed.
ction rose steadily. In 1884 the export stood at

The Nitrate Pampa: Opening up Trench after Blasting.

General View of Nitrate and Iodine Plant

Total export values, 391,000,000 pesos: of this nitrate and iodine represented 311,000,000 pesos. Nitrate responded to war demands, after the first paralysis of shipping had passed, and in 1916 nearly 3,000,000 tons were exported for munitions manufacture to the Allies and the United States. The greatest purchasers of Chilean nitrate today are European and North American agricultural countries; Australia also finds this chemical of great value and, before the war, regularly exchanged it for coal cargoes.

South America herself probably presents the most extensive stretches of agricultural territory which make practically no use of nitrate. In Chile its use is almost non-existent, partly because the soil is too newly opened and rich to need a stimulus as yet, and partly because the moist southerly regions are considered unsuitable for the employment of the easily soluble salitre. Guano is the most popular fertiliser in Chile, especially in the north: its use follows old Inca custom, when such valleys as that of Arica were irrigated and fertilised to produce famous crops of maize, *aji* and cotton.

The Nitrate Pampas

No stranger country than that of the wide, golden-pink pampas where nitrate lies is to be found in the Americas. The circumstances that created the deposits, the rainless climate that preserved them for unknown centuries, are unparalleled; the belt upon the Chilean West Coast between 19° and 26° of south latitude contains the world's sole source of naturally produced nitrate of soda. It is a unique region, and although the science of production of atmospheric nitrate advanced during the war, producers of the Chilean chemical do not view this competitor with alarm. Artificial pro-

expensive; Chile can, if necessary, lower
ces to meet any rival.

stal border of the great nitrate belt is about
n extent, its tawny dunes displaying no tree
st green thing except in such rare spots as
hread of water survives the burning sun
or where, at a port, an artificial garden has
ed with piped water. The generally waterless
region has long reduced it to sterility. None
ate deposits lie upon the coast, or at a distance
n fifteen miles inland. The average distance
terly margin of the deposits from the sea is
niles, a few of the beds, however, lying as far
es inland. Between the salitre fields and the
cean runs the diminished coastal range,
here and there to nothing more than a strag-
of broken, rounded hillocks; to the east the
re guarded by the backbone of the Andes
l altitude of the beds above sea level is from
oo feet.

le extent of the treeless and practically water-
y of North Chile, presenting a broad and
to the unchanging blue sky, is a vast series
deposits; for not only nitrate of sodium but
, borax, gypsum, cobalt, manganese, silver,
re spread through the great areas compris-

region show no trace of these deposits, while in others the layers run twenty feet thick. The surveyed fields cover at least 225,000 acres, contained chiefly in five major districts. The most northerly, the Pampa of Tarapacá, ships its products from the ports of Iquique, Caleta Buena, Patillos, Junin and Pisagua, and is served by three railways — the Nitrate Railways Company, the Agua Santa Nitrate and Railway Company, and the Junin Railway Company. Next comes the Pampa of Toco, exporting through the coast town of Tocopilla, to which it is joined by the Anglo-Chilean Nitrate and Railway Company. Farther south lies the enormous Pampa of Antofagasta, with outlets at the fine port town of Antofagasta and its older rival, Mejillones; the region is served by the main line and branches of the Antofagasta and Bolivia Railway Company. The fourth field in order is the Aguas Blancas Pampa, with a shipping point at Caleta Coloso, reached by an arm of the Antofagasta and Bolivia Railway; and the most southerly deposit of considerable size is the Pampa of Taltal, shipping its product by the Taltal Railway to Taltal Port. A few isolated beds lie outside the areas of these five great deposits, as the Providencia and Boquete beds of Antofagasta, but so far as present surveys have proved their existence, the great masses of nitrate are definitely localised.

Tarapacá, with 76 oficinas equipped, normally produces about 40 per cent of the total nitrate exported from Chile; Antofagasta, with 30 oficinas, chiefly of a more modern type, produces about 35 per cent; Taltal, with 9 oficinas, ships usually some 10 per cent of the total; Tocopilla, with 7 oficinas, about 9 per cent; and Aguas Blancas, with another 7 oficinas, is responsible for 6 per cent.

Nitrate Companies

e total capital invested in nitrate lands and plants lculated at 400,000,000 Chilean gold pesos of een pence, or about £38,000,000 sterling. It is asy to state exactly what proportion of this total d be assigned to each of the different groups of nals owning these properties, since many firms oying foreign capital are registered as Chilean anies, and both during and since the war a con- ble number of oficinas have changed hands; but fficial statistics published by the Chilean Govern- give the percentage of production ascribed to the us groups of owners, thus offering a useful guide. e figures ascribe to Chilean owners, out of a total lants in operation in 1918, 60 oficinas, producing 50 ent of the nitrate total; to English companies, 43 as and 34 per cent of the production; to the Jugo- with 7 oficinas, about 6 per cent of the produc-

Paper), earned profits of over 22,000,000 pesos or over £1,000,000 sterling at the prevailing exchange, and was thus able to set aside a substantial sum for rainy days. It is on account of earnings such as these, supplemented by the fantastically huge sums earned in the summer of 1920 when the price of nitrate rose to seventeen shillings per quintal, that the nitrate companies were able to observe with a semblance of equanimity the subsequent and sustained fall in prices. The international merchants were badly hit when the slump of 1921 came, but companies in Chile had made so much money that it was preferable in many cases to shut down operations rather than to continue the production of unwanted goods.

Other big Chilean firms are the Cia. Salitrera "El Loa," operating seven works, all in Antofagasta Province; the Cia. Salitrera Lastenia, with three fine properties upon the same pampa; and the Cia. de Salitres y Ferrocarril de Agua Santa, operating six oficinas on the Tarapacá Pampa.

Of the English companies, the largest was the Alianza, operating three oficinas in Tarapacá, and exporting normally about 150,000 tons annually, but this company has changed its domicile to Valparaiso and now counts with the Chilean group. The Anglo-Chilean Company has three oficinas in the Tocopilla district; the Lautaro, three, on the Taltal Pampa; the Liverpool Nitrate Company, three, in Tarapacá; the Amelia, three, in Tarapacá and Antofagasta; the Fortuna, three, in Antofagasta; the Rosario, three in Tarapacá; the New Tamarugal, two, in Tarapacá, where the two nitrate works of the London Nitrate Company and the properties of the Lagunas companies are also situated.

The German oficinas are twelve in number, operated by four companies. Of these the most important is the

Salitrera de Tocopilla, formerly the Compañia
. Sloman, with four properties on the Pampa of
. The Cia Salitrera Alemana owns five oficinas, all
ted on the Taltal Pampa; Salpeterwerke Gilde-
ter A. G., has three works in Tarapacá, and the
eterwerke Augusta Victoria A. G., one oficina, in
fagasta. The well-known Italian firm of Pedro
tti owns five oficinas in Taltal.

e nationals who most notably increased their
est in nitrate properties during and immediately
the war were the enterprising Jugo-Slavs who
of late years taken a considerable part in Chilean
lopment work. The largest of the Jugo-Slav firms
at of Baburizza Lukinovic, with five well-equipped
as in the Antofagasta district. Several other
pean-owned oficinas passed into Slavic hands be-
the stagnation of the market set in.

o North American firms own nitrate oficinas. The
nt Nitrate Company operates two properties in
l from which about 30,000 tons are annually

cover some 2244 square miles, while outside that area there are at least 75,000 square miles of undeveloped nitrate-bearing lands — chiefly in the hands of the Government of Chile. With, thus, over 95 per cent of the deposits untouched it is reasonable to expect a long life for this industry.

From the fields of Tarapacá and Antofagasta 60,000,000 tons of the chemical have been taken since the beginning of overseas exports, and it is estimated that in the comparatively small surveyed and operating area there are about 240,000,000 tons in sight, a quantity sufficient to fill the world's needs for at least another century at the present rate of supply. This is without taking into consideration the huge body of less readily accessible nitrate lands referred to in Dr. Castillo's conservative report, which included no deposits containing less than 17 per cent of nitrate, nor layers of less than twelve inches in thickness unless exceptionally rich.

The Caliche

Into the highly controversial question of the origin of the nitrate-bearing deposits it is unprofitable to go deeply, since, as in the case of petroleum, scientists have not agreed upon a theory. Several have been put forward, and a good deal of study and research has been devoted to the problem, but with no final result, a definite objection tripping up even the most likely suggestions. The most generally supported theory is that which was expounded in its original form by Darwin, postulating the long submergence of this part of the West Coast under the sea, its gradual rise through volcanic action, and the slow drainage and drying of masses upheaved from the Pacific floor. Remains of shellfish are occasionally found imbedded in the caliche,

and the presence of iodine is also adduced as contributory evidence; but bromine is curiously absent, and the question is complicated by other geological displays, some of which certainly seem to prove that before the subsidence of this belt in the Pacific the land was high and dry, clothed with thick forests.

I listened once upon a burning afternoon in the nitrate pampas to the seriously held theory that the caliche drained down, under the soil, from the mountains, and that the particular beds upon which my good friend was operating owed their origin to Lake Poopó, a turquoise gem near the railway line leading to Bolivia; the beds, it was insisted, seeped slowly from the lake and were being pushed up from underneath by subterranean pressure. Another theory credits the volcanos of the Andes with the production of sufficient ammoniated

tresses from a few inches to three or even six feet in depth, and owing to the hardness of the [illegible] must be blasted away from the precious fourth layer, the *caliche* proper.

The caliche bed varies remarkably in thickness and in position, sometimes offering a thin sand-mixed layer of little value, and at other times [illegible] itself as a beautiful shining snow-white bed several feet in thickness; its hue varies from pure white to grey, sandy, and even violet, and its consistency may be sometimes loose and porous, while in other regions it is as hard as marble. The best caliche contains as much as 70 per cent of nitrate, and by the present methods of extraction it is not considered worth while to operate deposits containing less than [illegible] per cent. The average in Tarapacá and Antofagasta runs to about [illegible] per cent. Below the caliche is the [illegible], another fairly loose layer of sand and clay, salts, selenite crystals and traces of nitrate; still farther down is another plainly differentiated stratum, called the [illegible], with a comparatively high percentage of water, a heavy proportion of clay, calcium sulphate, and other minor components. The nitrate is often carried through several of the protecting layers, and foreign matter is frequently found mixed with the caliche, yet the different strata almost invariably exist in readily distinguishable and undisturbed beds.

The process of preparation for the market is simple. The caliche, thoroughly crushed by heavy machinery, is tipped into immense tanks and covered with water; coils of pipes fixed in these vats heat the mass to a high temperature and the nitrate of sodium, readily soluble in boiling water, dissolves. The other ingredients of the caliche fortunately are not so easily dissolved, and settle to the bottom of the tanks, so that when the

r is drawn off and cooled the nitrate crystallises high grade of purity. There is a moment to be ed for in drawing off the liquor, however; com- salt (sodium chloride) is frequently present in the e in unwanted quantities, dissolving with the same ness as the nitrate. But it begins to precipitate e the nitrate, and the right time for withdrawing quor is when the salt has settled and the nitrate mediately following it. The nitrate-charged water allises on the floor and sides of the shallow *bateas* , generally of wood) into which it is passed, the ss of cooling and crystallisation taking from 20 to urs. The liquor is then pumped away, part being for the manufacture of iodine according to the nt permitted to the oficina by the central Asso- n, while the nitrate crystals are gathered in large for a few days for draining, and afterwards spread the cemented open planes, the *canchas*, for two s until thoroughly dry; it is then ready for bagging. during the drying stage on the cancha that nitrate

Production of necessity fluctuates with the prices paid for wages, fuel and equipment, but was reckoned by Dr. Enrique Cuevas, in 1916, to work out at a minimum of two shillings, or fifty American cents, for each Spanish quintal of 101 pounds weight. During 1921 the cost was reckoned at double this amount. Expenses tend to increase year by year, with higher wages and costs of food and fuel, as well as new charges such as that recently added by the Employers' Liability Laws of Chile. Antofagasta reckons that the cost of living increased 300 per cent between the middle of 1914 and the middle of 1921: it is certainly no less upon the inland nitrate fields, where all merchandise has an extra rail journey, every gallon of water is piped long distances from the mountains, and it is common to bring cattle for slaughter overland from northwest Argentina, the animals being shod for the three or four weeks' march over rough trails. The only method of reducing costs is by improved scientific production, and to this aim the work of the best companies is constantly and successfully directed.

Iodine is extracted from the "mother liquor" that has already deposited its burden of nitrate of soda and of common salt, and which is, after the extraction of iodine, returned to the first lixiviation tanks to serve again in dissolution of new loads of the raw caliche. The purple-black iodine crystals, of so pungent a quality that a whiff from the store-room is almost blinding, are packed into strong little wooden casks for export. A couple of big oficinas could, between them, manufacture enough iodine in a year to supply the world's needs, but to prevent glutting of the market there is an agreement with the Producers' Association by which the amount of this chemical made by each nitrate plant is strictly regulated.

ILE: TODAY AND TOMORROW

A Desert Industry

he realization of the properties of nitrate and rcial exploitation upon a great scale, the burn- s of Tarapacá and Antofagasta were solitudes, y all animal life. This region, whose products ned to give new life to a million cultivated ring orchards and groves all over the world ificent flower and fruit, lacked the ability to much as a blade of grass. Forming a con- retch of arid country with the long deserts opiapó, the major part of this strip shelters t has not been artificially introduced.

ay this region presents the liveliest scenes of Coast. Where a solitary waste lay under the ys cross the desert with loads of heavy bags ls; tall chimneys rise into the quivering air, n roofs of the nitrate works dot the pampas ach nitrate plant is the centre of an artificial

Everyone experiences a feeling of splendid health and well-being.

Above the flat desert is an enormous bowl of clear, transparent sky and one looks far away to distances that seem endless. At sunrise and sunset the effects of light upon the sky and pampa are of a beauty never seen but in expanses such as these. I have watched the sky in an Antofagasta nitrate pampa when, as the sun fell swiftly, all the arch flushed with rose, and quickly flooded with sheets of purest violet while the orange and umber pampa took on deep amethyst shadows; before pastel or paint could record the sight, all the sky was transformed in a clear luminous lemon-yellow, upon whose bright surface streams of translucent green presently ran. The high peaks of far-distant Andes appeared as if floating, the snow-crowned heads of San Pedro and San Pablo alone visible against the changing sky, fading at last into the mantle of sapphire that gradually shrouded pampa and heights, with nothing moving but a host of brilliant stars, sparkling like diamonds on a live hand.

In a few moments after sundown the scorching heat has given place to sharp cold, and he who rides by night across these deserts must carry a heavy woollen poncho; one sleeps indoors under blankets. Dawn is a miracle of pink and pearl, and in at the window comes the scent of the cherished flowers in the little garden, glistening with dew. The new day is an of indescribable freshness and serenity. Long before noon the sun is pouring vertical floods of sunshine upon the desert, the very sand seems to quiver with heat, and a relentless scorching breath seems to fill the world. But to this all-the-year-round heat the foreigner soon becomes accustomed — everyone, as a matter of fact, workers and officials alike, is a "foreigner" to this pampa; human life is imported

e every other commodity here. But the childrer rn of white parents in the nitrate fields are strong anc rdy, and it is not surprising that they who hav ed for a year or two on the pampas find themselve tless in other places, suffer a feeling of constraint, nging for these wide skies and far horizons.

The great development of the nitrate industry ha eated during the last forty years a series of ports alon e Pacific, and brought to this once desolate coast here there existed only a few fishing villages or outlet desultorily-worked mines, a population which toda ceeds 350,000. The workers directly engaged in th traction, preparation and shipment of nitrate numbe out 70,000, about 50,000 of these being employe on 173 oficinas, when all are in operation.

Nitrate During and After the War

When the writer last visited the Antofagasta Pampas

the Allies for the transport of the chemical, and the ports of the pampa regions showed tremendous activity. But with the cessation of hostilities the urgent demands of manufacturers of explosives in the United States and Europe came to an end and the pre-war market offered by farmers did not immediately resume its calls. Shipping gradually returned to ordinary commercial channels, the scarcity of freight for normal commerce was at once apparent, and the rates that consequently prevailed were too high for profitable shipment of nitrate at the prices to which it fell. Many oficinas closed down. But in early 1920 a healthy reaction set in. Agriculturists began buying again, and added to this cheerful effect the industry was reassured by the non-materialisation of many threatening prophesies of the serious nature of the competition to be offered by artificially-produced nitrate.

The work of the active Asociación de Productores de Salitre de Chile first made itself felt in 1920. As its name implies, the group comprises firms engaged in Chilean nitrate production, practically every company subscribing with the exception of the two North American operators and a few small oficinas. Formed by the same energetic firms who previously organised, in 1889, the widely-spread Committee of Nitrate propaganda, the Asociación goes farther in that it controls the output of nitrate of soda and of iodine, agrees upon a price, f.o.b. in Chile, for these products, and deals with international distribution. Maintaining committees in London and Berlin, the Association has also opened branches in France, Belgium, Holland, Italy, Spain, Scandinavia, Egypt, Yugo-Slavia, India, South Africa, Japan, China, and all over North and South America, these delegations being added to wherever prospects for the consumption of nitrate are presented. The Asso-

n's main object is to obviate the violent fluctua- of price that have threatened the industry from to time; to watch markets closely and to avoid oading them by retaining a check upon output. Association's headquarters are in Valparaiso, in ant cable communication with international cen- The effect of the work of this voluntary combine, which such other powerful groups as the Eastern r planters look with something like envy, has undeniably beneficial although no efforts can teract the adverse results of slackened demand.

1913 the price per Spanish quintal was eight shil- f.o.b. in Chile, or about $2 United States cur- , while freight to British ports cost twenty-three ngs per ton, New York charges running about $6. te is packed into bags of two quintals each, ten thus weighing a little more than an English ton. ng the war the price rose to thirteen shillings per al, but fell to between nine and ten shillings in Owing to a strong reawakened demand, plus

eventually the pool agreed to lower prices upon an arrangement with the Nitrate Producers' Association, by which £1,500,000 was accepted as part compensation. This sum is collected by a small levy upon all nitrate exported. Prices were then reduced to eleven shillings per quintal up to December, 1921, and to 10 s. 3 d. for deliveries in the spring of 1922. At these prices trade revived appreciably, and the world's need for nitrogenous fertilisers set freights moving again.

Continuing for more than a year, the nitrate crisis affected no one more acutely than the Government of Chile, for in addition to finding themselves suddenly deprived of the most substantial part of their national revenues, they were faced with a staggering amount of unemployment. The oficinas, of which all but 45 were forced to close as a result of the moribund market, discharged some 40,000 men. There is no work in the Desert of Atacama apart from nitrate and copper industries; the land produces no food and there is nowhere to live. A stream of unemployed workers was almost immediately directed southwards, and while a proportion was absorbed by the farming and milling industries of the agricultural zones, numbers remained in the vicinity of the capital, a source of considerable anxiety. At one time it was reported that 10,000 men were camped out near Santiago, a charge upon the Government, and although the authorities were active in seeking to find employment on a series of public works, these plans were rendered difficult by the financial straits of the nation. The administration of Sr. Arturo Alessandri went into office with many schemes for the betterment of living conditions in the working classes, but has been seriously hampered by the economic trials that beset Chile within a few months of the change of government.

is scarcely to be expected that the Government
d see eye to eye with the nitrate producers in the
ion of sustained export at a time of market depres-
The nitrate companies argue that it is useless to
uce and attempt to export a commodity for which
is no demand, with immense stocks already chok-
nternational warehouses: that any such action
l lower the price of nitrate to a level ruinous to
olders of the existing stocks and be bound to react
trously upon nitrate producers. The Government
ns that they desire a general lowering of nitrate
s, so that the fertiliser should be bought in larger
tities; they want to see a continuation of large
tities produced and exported, in order that work-
should not be, as during the 1921 crisis, thrown
the country's hands, and also in order that export
should continue to fill national coffers. To this
roducers reply that there is one ready means of
ing nitrate prices, and that is to take off or to sub-

of the industry one finds "production and export of nitrate expressed in Spanish quintals of forty-six kilograms; prices quoted in pounds sterling per English ton of 1015 kilograms; while the British financial reviews vary, some giving the prices in shillings and pence per English hundredweight, while others quote pounds, shillings and pence per English ton. The Latin countries quote in francs, liras or pesetas, whose sterling exchange value varies, while Hamburg quotes in marks per zentner of 50 kilos." Quotations also vary, continues the Inspector for the Chilean Government of Nitrate Propaganda services, according to whether the chemical is sold in Chile, where prices are always "free on board," or free alongside vessel, or whether they are sold including ship freight to Europe or when placed in wagons at the port.

There are today 173 oficinas upon the *pampas salitreras* of Chile. At the commencement of the commercial development of the fields, British capital and technique was foremost in the work, the efforts of the well-known Colonel North contributing largely towards the active interest of British investors. Chileans themselves have long been keen developers of nitrate properties and considerable investors; today their share is higher than that of any other nationality — a situation unusual in Spanish American countries, where industries are frequently left to foreign companies to a degree unhealthy for everyone concerned. The Chilean's enterprise and business sense have indeed carried him far afield, his interests in Bolivia covering 60 per cent of the silver and tin mines.

The social system upon all oficinas is necessarily the same: dwellings and food supplies for the workers must be the consideration of the company, and in consequence large camp stores (*despachos*) are always main-

d in which goods are sold to employés. Certain tions to this system are always heard, but it is unavoidable; in all good and well-managed oficinas stores are stocked amply, prices being kept down imit at or just above cost price. There is always a demand for workers, and no nitrate camp would n its employés if conditions were not those uni- ly regarded as just. The chief social difficulty of ficinas is in keeping off company lands the enter- ng piratical provision and liquor sellers who are to demoralise and rob. The only remedy is sure of the properties and fencing is becoming more . At one time the boundary of a nitrate grant was by a string and a heap of stones, but since the an Government has taken steps to regularise es there has been less of the happy-go-lucky system nits.

e acute interest of the authorities of Chile in the te industry is due to the fact that it constitutes

must meet competition, an impossible feat if its cost were raised by the imposition of export dues. If, however, the cost of production of Chilean bar copper by the Guggenheim group is correctly estimated at eleven cents per pound, it is fairly plain that at the time during the war when Europe was paying twenty-six or twenty-seven cents per pound for this commodity it might have yielded a return to the country of origin.

Of the nitrate ports, Antofagasta is today the most lively and agreeable, although Iquique is still a rival in quantities of the chemical exported. Just north of Antofagasta lies Mejillones, the old port established in colonial days, but its equipment was found to be inadequate after the acquisition of this territory by Chile, and the creation of modern facilities and a modern city was decided upon. People who live in Antofagasta are proud of the place with excellent reason. The approach by train from the south is through ramshackle, happy-go-lucky fringes that have tacked themselves on, but the city itself is well equipped. Streets are wide, clean and well paved; shops are filled with merchandise from London, Paris and New York, and are not extravagant in price. Office buildings, many of which house the representatives of nitrate railways, nitrate and iodine companies, agencies of copper and borax companies, of shipping lines, brokers and several foreign and native banks, are spacious and well equipped; the telephone service compares well with that of many cities of ten times the size of Antofagasta, with its 70,000 inhabitants. Hotels are comfortable, service courteous, and tariffs less than one might expect in a city with not a single meadow or orchard within hundreds of miles, deriving all that it consumes from the Chilean farming lands farther south,

the packing-houses of Magellanes territory and
fields of the centre and south, or from the sugar
uit regions of Peru or markets overseas.
public park is an object of admiration of every
coming from the barren coast farther north or
he Atacama copper country to the south; it has
sedulously nursed into greenness that is the more
kable since Antofagasta's water supply is piped
the foothills 200 miles away — through lands so
hat more than once a fox of the deserts, driven
hirst, has followed the pipe-line across the pampas
into the city. The great pride of hospitable and
Antofagasta is in the country club to which the
is always motored along the sweep of the bay;
s a cool building with a fine dancing floor and a
cook. But its chief claim to admiration is the
garden, no more than a few feet square, tended so
edly that all the year round it glows with gay
s.

Antofagasta. The Nitrate Wharves.

Copper

The future of copper mining in Chile is wrapped in uncertainty. The industry has already undergone a not unfamiliar transformation, with a deeply marked effect upon the Chilean population engaged in this work, for, commencing as a series of individual enterprises on the part of the native-born, it has become a large scientifically organised business operated chiefly by foreigners,[1] with the Chileans reduced to the position of wage-earners.

Under the old haphazard system, when a man would frequently go out into the desert alone, or with a single companion, hunting for rich veins of copper ore, a good living at least was the rule; when the discovery of a considerable deposit warranted the introduction of simple machinery, a few employés, transport animals, etc., many little and big fortunes were made. The buyers and smelters of last century also earned satisfactory returns. But, curiously enough, the huge organisations utilising immense masses of lower-grade ores, employing thousands of men and most modern machinery, with smelters at the mining camp, are generally stated to be run at a loss. There are reasons why such statements should be accepted with reserve, but looking at the matter purely from a Chilean angle it is at least questionable whether an industry which yields nothing to the national treasury in the way of export dues upon the mineral shipped out, and which draws many thousands of men from agricultural zones to an isolated and entirely artificial life under conditions tending to lower the standard of citizenship, has a sound *raison d'être*. Possession of the large Chilean

[1] The most recent foreign entry into the Chilean copper field is that of the Japanese, with interests in three large deposits in Bio-Bio Province.

deposits, whether operated at all, or operated
profit, does however enable a group of powerful
s controlling copper in North America to control
copper markets of the world: for after North
a, Chile is the scene of the greatest identified
areas, the two series of mines together producing
per cent of the total international output.

e present time, that is to say, at the end of 1921,
ation in Chile with respect to copper is briefly
here still exists, throughout the copper-sown
of Coquimbo and Atacama provinces, a dimin-
umber of small mines following rich veins of the
me of these are little more than holes in the
others are worked by organised companies with
achinery, housing several hundred workers and
their own system of transport, as the Dulcinea
Copiapó. But almost everywhere the rich lodes,
ng anything from 8 per cent of copper upwards,
ppearing; they have been hunted for centuries,

But at the approach of the infrequent visitor in automobile or on horseback, the houses are seen to be windowless, empty; nothing moves in the sun but a stray cur or two, until presently an old woman with a child at her skirts peeps from a makeshift shelter. The whole place is dead; not an engine is working, not a gang of workers moves upon the great spread of properties. The exhaustion of rich veins, difficulty of competition with metal produced at less expense in a fallen market, coupled with tangled litigation, has brought back silence to this strange spot in the mineral-strewn mountain spurs that here crowd down almost to the sea.

The day of La Higuera is not long past; the mines of this extraordinarily rich region were actively productive during the present century. But a similar fate has already closed down very many smaller groups of mines, as it closed down smelters from Arauco to Antofagasta. In the prosperous days of the industry last century, when Chile was the greatest copper-producing country in the world, a big fleet of sailing ships, copper-bottomed, fast, with a famous list of captains, voyaged constantly between Swansea and the Chilean coast by way of Cape Horn, bringing British coal and merchandise and returning with bar copper or rich ores. A whole colony of Welsh set up the first scientific furnaces in Herradura Bay, just outside Coquimbo Town, and at a dozen points the little smelters of Copiapó and Coquimbo were busy; simple methods were used with profit, and many Chilean residents recall the time when the stem and stalk of the *cardon* were always used to obtain a fine clear fire when annealing copper.

CHILE: TODAY AND TOMORROW

El Teniente and Chuquicamata

most spectacular of the large copper mines in
ion today in Chile is that of El Teniente, situated
rim of an ancient crater of the Andes east of
gua, the nearest main line railway station.
, the little town of mining employés, is connected
ancagua by the private line of the Braden Copper
any, 72 kilometres in length, climbing from Ran-
s altitude of 513 metres, or about 1600 feet, to
ining camp's height above sea level of 2140
, or some 7000 feet, on the side of a terrific gorge
angle of rocky mountain shoulders and peaks.
ain ore bodies lie above the site of the town and
t altitudes ranging from 9000 to 11,000 feet, one
El Diablo, on the crater's edge, rising to 13,000

amount of copper ore found in masses on the
r rim was calculated at the beginning of 1920 as
0,000 tons of 2.45 per cent. with (probably) 02.-

Sewell Camp at Night.

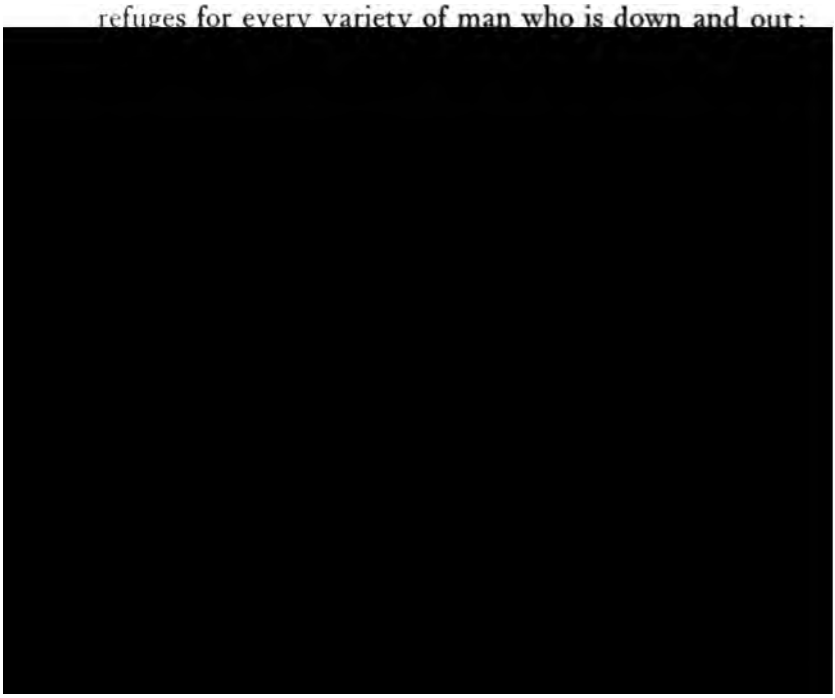
Sewell (El Teniente Copper Mines) near Rancagua.

way line to Rancagua, at a spot where the junction of the Coya and a canal from the Cachapoal River forms a waterfall of 422 feet, yielding hydraulic power sufficient for the generation of 40,000 H.P. A new power house recently completed, on the Pangal River, another near-by Andean torrent joining the Cachapoal and Coya, adds to the equipment by which the Braden Company contemplates 10,000 tons of daily crushing, operations which should result in the production of over 70,000 tons of bar copper each year. Paralysation of international markets has so far checked the materialisation of these plans, and during 1921 the plant was operated at no more than half its capacity. The most prosperous year which the mine has had so far was that of 1918, when El Teniente produced nearly 35,000 metric tons of bar copper, out of the Chilean total production of rather more than 102,200 tons: a year later, 1919, the Braden Company sold and shipped only 10,000 tons of bar copper.

Rancagua, a somnolent little town lying about 70 miles from the Pacific, has no direct rail communication with the sea, and derives what liveliness it possesses from its position upon the main line to Santiago, its chief market, and as the terminus of the Braden Company's electrically-operated line to El Teniente or rather to Sewell — which has an older name, Machalí. At times the activity resulting from the mine's access to this town, and this town alone, is regarded without any pleasure by the townsfolk, for when strike trouble occurs there is likely to be a descent of discontented workmen and families. Such an occasion occurred at the time of the disorders at the end of 1919, when an army of expelled men with their families walked down the narrow track from Sewell to Rancagua, and although the journey of 72 kilometres occupied some

three days, and the spirit of the strikers was reduced by their experiences, Rancagua was alarmed and embarrassed by their presence.

A curious mixture of workers finds its way to this and other mining camps of Chile. The bulk consists of the hardy Chilean himself, concerning whose good qualities no employer of intelligence and feeling has any doubts: he is strong, trustworthy, kindly — but can be roused by drink or anger to violence. Treated well, he is the best element among massed groups of workers. But side by side with the genuine and sound Chilean is not only the malcontent roaming from north to south, from camp to camp, according to his own will or the exigencies of the Ley de Residencia, but the "hard case" from half a score of different countries. The mines are refuges for every variety of man who is down and out;



enough liquor gets through to make the business pay. Despite this lack of welcome to the unintroduced stranger, however, Sewell is hospitable to the visitor, and any accredited person receives pleasant courtesies.

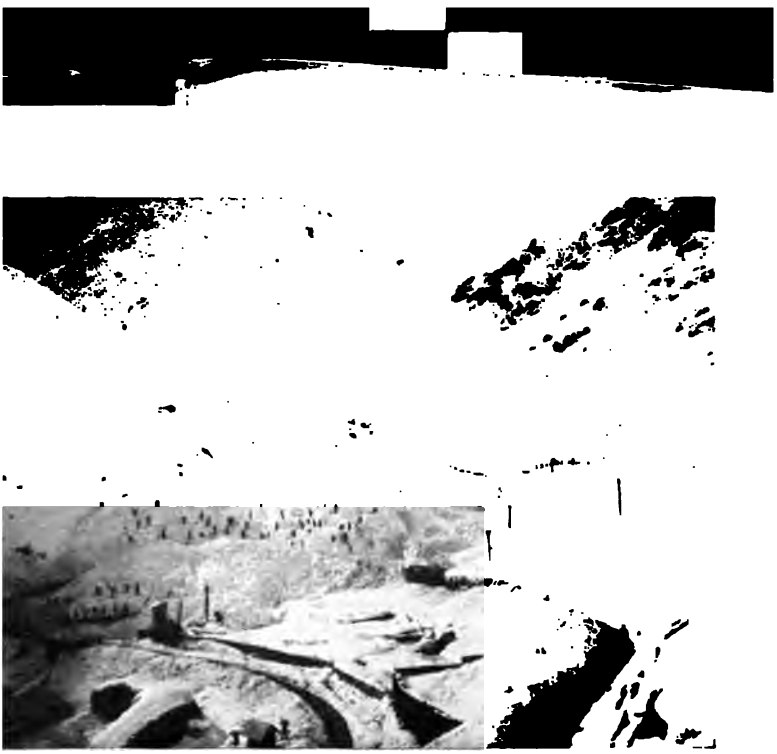
The rail automobile which takes such visitors from Rancagua to the camp offers by far the most agreeable form of travel; the bright green fields and sub-tropical verdure of the sheltered plain country gives way to deep folds of mountain spurs, and presently, rising into colder air, vegetation is reduced to a few hardy shrubs and mosses, and the violet and tawny shoulders of the Andes rise from the banks of the racing river. When I visited El Teniente the mountains were bare; their rocky sides, steep, incredibly scored and peaked, took on at sunset and dawn brilliant hues of rose and flame; but before I left the first snow fell, transforming the whole country in a single night. A thick blanket filled the crevices of the sheer rocks, black ridges and points alone emerging; the piled tenements of the miners, clinging like birds' nests on the face of a cliff, were blanched, half-buried, pathless. Communication with the outer world, by the single line down the ravine to Rancagua, was actually not much more restricted, but with the blocking of even the few mountain tracks open in summertime the isolation of the camp was emphasised.

✓ There are about 2800 miners engaged at El Teniente, but the total population of the camp, including the workmen's families, the officials (chiefly North Americans), employés of railways, stores, etc., is usually over 12,000. All this artificial town hangs precariously on a steep slope immediately opposite to the jagged crater where the huge copper deposits are embedded. Formerly, rows of camp buildings were built on the mine's lower slope, but avalanches of soil, rock and snow neces-

d the removal of dwellings to the present site, at
ooo-foot level.

rcely a sign of mining operations is visible from
s the mountain chasm, although work has been
on here for at least 200 years. Owing to the
nerous nature of the country rock and danger
snow slides during six months of each year, the
odies are now attacked from below; entrances to
ntricate system of shafts and subterranean pas-
are lost in the rugged crenellations of the old
no. Yet the place is honeycombed: one tunnel,
ng from the more recently approached Fortuna
runs all round the three-quarter-mile-wide crater;
are innumerable hoists, ore-passes, shafts, gal-
and tunnels, that, with the railways and power-
achinery and gangs of workers, comprise an in-
al town hidden in the mountains.

e second large copper property operated by the
enheim interests in Chile is at Chuquicamata, in
gh deserts of the province of Antofagasta, at about



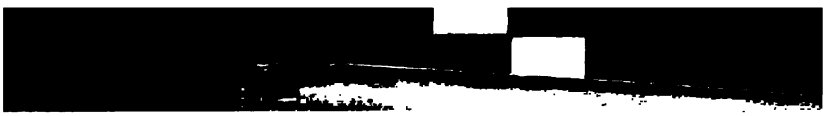
Sewell (El Teniente Mine) in the Snows of June.

Railway between Rancagua and El Teniente.

[illegible] take the traveler across the flaming nitrate pampa [illegible] without a sign of green, winding upward until [illegible] sundown, when the station of Calama [illegible] approached, the altitude [illegible] feet [illegible] the distance the light of the mining camp [illegible] Calama itself shows [illegible] and [illegible] superimposed upon [illegible] remains [illegible] have been found in the old cemeteries of Calama.

There is from Calama a small [illegible] miles running to [illegible] and some use is made of this to ship merchandise [illegible] from the Chuquicamata camp [illegible] and a number of company motor cars [illegible] the road across the saffron desert between the main line and the mines, ignoring [illegible] as much as possible. That ramshackle village is [illegible] little more than an impudent hanger-on of the big works [illegible] every little frowsy shack is a saloon or a gambling den, more than one of the most enterprising [illegible] keepers being white ex-employees of the camp. [illegible] were any serious attempt made to operate Chuquicamata as a "dry" camp, the existence of this terminus-village a mile away would counteract these efforts.

The great ore bodies of Chuquicamata lie in a range of low, pale-hued hills rising gently from the shelving wind-swept, dust-strewn plain. The chief mass of ore is easily attacked by steam shovels placed upon four or five different levels cut along the face of the most accessible slope, a system of light railways carrying the blasted-out rock, often of the beautiful blue and green tints exhibited by copper sulphates, to the plant in a shallow saucer below. Here also are the residential



Port takes the traveller across the flaming nitrate pampas, waterless, without a sign of green, winding upwards until the air is chill and the wind bleak. At sundown, when the station of Calama is approached, the altitude of nearly 8000 feet has been attained. In the distance the lights of the mining camp flicker at a higher level; Calama itself shows a brilliant flare of green, for here is the river Loa and a little modern town with fields and orchards superimposed upon very ancient remains. Gold, pottery, and textiles showing Inca influence have been found in the old cemeteries of Calama.

There is from Calama a small branch line of a few miles running to Punto de Rieles, and some use is made of this to ship merchandise, etc., to and from the Chuquicamata camp: but a private line is projected, and a number of company motor cars traverse the road across the saffron desert between the main line and the mines, ignoring Punto de Rieles as much as possible. That ramshackle village is, indeed, little more than an impudent hanger-on of the big works; practically every little frowsy shack is a saloon or a gambling-den, more than one of the most enterprising brothel-keepers being white ex-employés of the camp. Even were any serious attempt made to operate Chuquicamata as a "dry" camp, the existence of this terminus-village a mile away would counteract these efforts.

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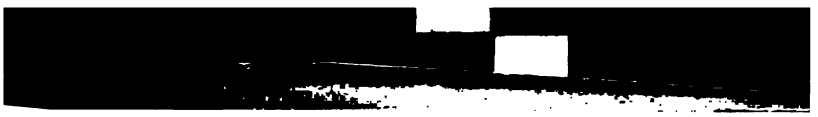
rs of this isolated camp, where there is neither tion nor water, and a dust-laden wind prevails ıe cold, widespread territory, bordered only by ow-crowned peaks of such Andean giants as S. and S. Pablo.

Chuquicamata ores are, chiefly, basic sulphates per, yielding about 1.7 per cent of the mineral. esent plant has a crushing capacity of 15,000 tons y, which amount should produce 200 tons of bar

As work goes on all day and every day, this tion if sustained would produce in twelve months 0,000 tons of electrolytic copper, a quantity Chuquicamata has not yet recorded; the mine's ar so far was that of 1918, when a total of 101,- pounds of electrolytic copper was produced, ıt 45,000 tons. The leaching or lixiviation pro- employed here: the ores, crushed fairly fine, are in a solution of copper sulphate for 48 hours, which period the copper in the introduced ore



across the desert, where a highway also extends. Since no fuel exists in this northerly region, nor are there water-falls available, the plant uses petroleum imported from North America to generate the power required.

Chuquicamata employs about 2000 Chilean or Bolivian, with a small sprinkling of Peruvian, workers, housed under conditions which leave something to be desired. Many of the huts are made of sheetiron, with partitions dividing the rooms; the floors are of mud, and an opaque substitute for glass obscures the window space in too many cases. The better-class houses are insufficient for all the native-born workers, and it is not surprising that a degree of discontent has more than once been fomented in the camp. Daily wages run higher here than at El Teniente, averaging over nine Chilean pesos per day as against rather less than eight pesos, but this raised scale does not compensate for the greater cost of living and other disadvantages. Fuel is one of the serious difficulties; coal is almost unknown, and the employé's womenfolk are seen cooking over a charcoal brazier, or a fire made of an umbelliferous plant from the mountains (*llareta*), or a few pieces of wood brought from long distances. A great deal is said by the company of the Welfare Work Department: its most striking exemplification is in the big clubhouse which, well equipped and decorated, is however used almost exclusively by the North American officials and their families.

In addition to the two big mining plants at El Teniente and Chuquicamata, the Guggenheim interests in Chile include the old-established smelters at Carrizal and Caldera ports: the latter, in common with all the smelters founded during the last century, took only high-grade ores, the average of the mineral accepted here working out at about 10½ per cent of copper.

works turned out over 5000 tons of copper in- 1918, but were closed in 1921, following the in prices.

uicamata is operated by the Chile Copper ny, a subsidiary of the Chile Exploration Com- El Teniente is operated by the Braden Copper ny, which is owned by the Kennecott Copper ation, one of the Guggenheim creations also ling Alaskan and Utah copper properties. The Copper Company is stated to have shown a of $1,500,000, United States, in 1919.

Pudahuel and Potrerillos

raphically speaking, there lie between El te and Chuquicamata two other large copper s acquired by North American interests since ropean War. Between Santiago and the sea lie dahuel mines, identified at least a hundred years

these ores had not been decided upon, and no machinery installed, although an expensive housing scheme had been carried out at the mine. A railway between the tiny village of Pueblo Hundido, a handful of houses in the middle of an apricot-hued desert, and the high-placed mine were in operation; and a power plant, burning petroleum, had been set up at Barquito, on the coast a few miles south of Chañaral, the transmission lines running out across the sandy waste for some 130 miles.

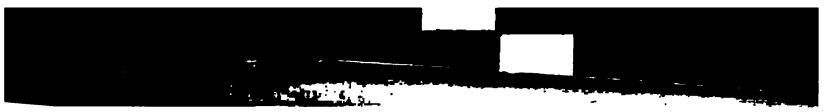
Work on the Portrerillos installation was suspended about the middle of 1921, before a single ounce of copper had been produced. High above the copper deposits are extensive beds of sulphur, and upon the extraction of this mineral, needed in certain processes employed in treating low-grade ores, a certain amount of work has been done.

There are 16,000 mines of copper registered in Chile, covering an area of 57,000 hectares upon which the mining tax of ten pesos per hectare is paid. Of the producing establishments, Chuquicamata and El Teniente are by far the greatest, exporting in 1918 nearly eighty per cent of Chile's total production. From the Caldera smelters was shipped a total of 5217 metric tons; Catemu produced 3790 tons; Gatico, 3708 tons; Naltagua, a French property, 3653 tons. Small quantities came also from El Volcán, El Hueso, and the Chañaral smelters, also in French hands. For the last ten years Chile's output of copper in comparison with the total world supply has varied between 4 per cent in 1911 and 1912, and 8 per cent in 1918. By far the greatest producer of copper today is the United States, with a highest record of 880,000 metric tons in 1916, followed by Japan, shipping her highest recorded figure in 1917, when 124,000 tons was produced; Mexico,

ns; Canada, averaging 50,000 tons; and Peru,

Iron

ory of Chile's iron deposits and works offers one ost curious chapters in her mining history.
nost important of the identified deposits lie esert country north of Coquimbo, the fields at rrobo and Algarrobito in the Department of , Atacama Province, having interested a Ger- n some years before the war. No practical vere achieved, although the region recorded a port of manganese, from the Astillas beds, until conditions checked these shipments soon after nning of this century. Proximity of quantities anese ore to the iron fields, reported as being of extent, has raised repeated hopes for the foun- f a great industry, but the crux of the problem sence of adequate fuel or water supplies, and



transported them by light railway to the little bay of Cruz Grande and thence to the south where, at the port of Corral in Valdivia province, a smelter was erected, the first experimental production of pig-iron taking place in 1910.

The company was fortunate in obtaining from the Chilean Government various privileges, including the concession of 58,000 hectares, or about 145,000 acres, of southern forest land, estimated to be capable of yielding 50,000,000 cubic metres of fuel wood. The Prudhomme process is employed at Corral; wood fuel alone is required, and an important item in the calculated income from the operation of the plant is that of the sale of by-products (charcoal and alcohol) obtained from the wood, in addition to the output of the blast furnaces. The plant was built to produce 50,000 tons of pig-iron annually, and would require for this purpose nearly half a million cubic metres of fuel wood; the expectations of the company have, however, not been realised, and when I saw the plant in 1920 it had been inactive for several years. A week of trial under the auspices of Chilean Government engineers headed by Dr. Manuel Prieto was undertaken in July of the same year, and an optimistic report issued: a few noteworthy points are quoted below.

With regard to the cost of production, the report states that the iron ore costs at Cruz Grande nearly ten pesos per ton (the peso in mid-1920 being worth about one shilling): but the sea freight, unloading at Corral, and transport to the smelter cost 14 pesos per ton. Despite the high freight charge, the cost of producing the 345 experimental tons worked out to only 152 pesos per ton, a quantity of the company's ingots finding a sale at 345 pesos per ton. If the calculation is correct that, working sustainedly, the smelter could produce

n at all-in costs of about 55 pesos per ton, the roblem is that of finding sufficient local or other American markets prepared to take yearly 50,000

btain this quantity, the engineers estimate the rment of 70,000 tons of iron ores, purchased from o at 8.40 pesos per ton. The famous iron hill is ger operated by the French Company, for during r the deposits were leased to the Bethlehem Steel Mines Company, and an extensive establishment l. A contract exists by which the Bethlehem ts guarantee to supply a maximum of 100,000 ore free on board at Cruz Grande to the Société Hornos, for thirty years.

he fate, so far, of the Prudhomme smelter at is misty despite high promise, that of the big tion at El Tofo is no less clouded. As soon as thlehem Company took possession, large sums

the iron hillside. The Company's intention, I was informed by the sole official left in the silent camp, is to ship the rich ores of El Tofo to Sparrows Point, Maryland, where special equipment has been built to unload the Cuban ores imported by the Bethlehem interests. The haul from Chile is however considerably longer than from Cuba, and although transit by way of the Panama Canal has brought the Atlantic Coast of North America into closer commercial touch with the West Coast of South America, the cost of freight or other equally powerful reasons have prevented materialisation of the original plans. In more than one instance, wealthy firms making immense sums of money during the great war appear to have placed capital in investments far afield from which a return was not desired for reasons having a certain relation to the tax collector; and whether or no these considerations had any bearing upon the acquisition of large copper, iron, tin and silver deposits in various parts of South America by powerful companies, the fact remains that vast mineral resources have been added to the properties of a comparatively small group, and that their active operation may in the future affect international markets.

Early in 1921 announcement was made to the effect that a concession for thirty years of 140,000 hectares of forestal land in Llanquihue Province had been granted to a German firm, for the installation of large iron works. At the same time the concessionaires, who were stated to be engineers representing the Krupp firm, secured an option upon the Pleito iron ore deposits in Coquimbo and another series of mines in Atacama known as the Zapallo fields. Several Chilean newspapers, including the energetic *Mercurio*, took excep-

o the land grant, pointing out the possibility that any was evading the spirit of the Treaty of Ver-, prohibiting her from manufacturing arms or within her own territory, by setting up big iron eel factories upon foreign soil; it was also objected he territory conceded includes a considerable part forestal reserves left in South Chile. A strip of and two kilometres wide had been reserved by hilean Government between the concession and Todos los Santos, and with this exception the n grant extended from the lake to the foot of co volcano, with water outlet to the Pacific by an arm of the Gulf of Reloncaví. The Petrohue is said to offer power for large hydraulic installa- and two other and smaller streams also run h the grant.

from the north would, according to the plan, be orted to wood-burning smelters in the south. ifficulties arising from the claims of property-

and the shining sands of the river beds of Huasco. It is estimated that from the days of the first settlement to the end of the fifteenth century Chile produced 131,000,000 pesos' worth of gold, 63,000,000 worth in the sixteenth century and 167,000,000 in the seventeenth.[1] After Independence and the encouragement of foreign enterprise, production rose in less than fifty years (1801 to 1850) to 226,000,000 pesos (all these calculations being reduced to pesos of eighteen pence for purposes of comparison), but weakened abruptly when the deposits of alluvial gold, eagerly sought and worked, became exhausted by the end of the century. The present yearly production of gold averages about 2,000,000 pesos, chiefly from the Alhué mines near Rancagua.

The present production of silver is also a shadow of its former record. Once upon a time rich silver mines were worked at Uspallata, near the Pass; these were already abandoned in 1820, when Peter Schmidtmeyer made his journey. Chile never rivalled Potosí, where travellers of the early sixteenth century (before the amalgam process was introduced in 1571) might see 6000 furnaces shining together at night upon the famous hill; but her mines recorded a splendid total in one quarter-century, 1876 to 1900, when 432,000,000 pesos' worth of silver was produced. Lowered inter-

[1] Betagh, writing of conditions in 1720, says that there were gold mines at Copiapó, "just beyond the town and all about the country likewise, which have brought many purchasers and workmen thither, to the great damage of the Indians; for the Spanish magistrates take away not only their lands but their horses, which they sell to the new proprietors, under pretence of serving the king and improving the settlements." He also noted the saltpetre, lying "an inch thick on the ground" in the north, and says that the country is full of all sorts of mines. About the year 1709 two lumps of gold found near the Chilean frontier, one of which weighed 32 pounds, was brought by the Viceroy of Peru, Count Monclove, and given to the King of Spain. In another washing place near Valparaiso belonging to priests gold nuggets are found, he says, ranging from a few ounces to one and a half pounds in weight.

l prices and the exhaustion of rich veins so re-
the industry that in 1915 only 1,000,000 pesos'
was produced, and although later years have
l values of over 3,000,000 pesos, future great
tion depends upon new discoveries and scien-
eration. The mining engineer still has much
o do in the deep folds of the Chilean Andes,
he sands of the islands south of the Strait of
an have yielded, and are likely to yield again
good management, rich harvests of gold.

Coal

coal industry of South Chile owes its greatest
s to the energy of Matias Cousiño, organised
ment dating from 1852; but mining for com-
purposes began as far back as 1840, when a
ear Talcahuano began to supply the needs of
first steamship line, forerunner of the present

operation in the rich regions of Arauco and Concepción, a deposit is being worked near Valdivia (the Sociedad Carbonifera de Máfil) while the Loreto beds are also under exploitation in Magellanes Territory, near Punta Arenas. The product of some of the Chilean mines is of excellent quality, but the product was, before the war, insufficient in quantity and not of a grade rendering it suitable for all railway and steamship uses. It was therefore supplemented by hard steam coal imported from foreign countries; before the outbreak of war in 1914 British mines were shipping about 1,000,000 tons per year to Chile, Australia sent about 450,000 tons, and the United States sent small quantities that varied between 3000 and 100,000 tons. The supply from Welsh and Australian mines was, during the war, diminished almost to vanishing point, and at the same time imports from North America rose to three or four hundred thousand tons, and the Chilean home production was immensely stimulated.

Chile's producing mines are fourteen in number, twelve of these lying in the Arauco region; in 1909 production amounted to less than 900,000 tons, but had risen to over 1,500,000 in 1918 and 1919. Eleven to twelve thousand men were then employed, as against 9000 in 1911. The most important operators are the Compañia de Lota, Coronel y Arauco, a combination owning four mines and tributary railways, employing 3670 workers, and producing more than half a million tons of coal yearly. Next comes the Cia. Carbonifera y de Fundición Schwager, also situated at Coronel, employing 2800 men and producing over 400,000 tons; the only other company with an output of over 200,000 tons annually is that of Cia. Carbonifera Los Rios de Curanilahue, employing 1500 men. Both here and in the Lota mines the plant is operated by hydro-electric

r, and throughout the Chilean fields the standard achinery and equipment is high. The general n of coal seams operated in Chile is from fifty to inches.

e wages paid are about the same as for other ng and industrial work in Chile, ranging from five ven pesos (paper) per day. The Coronel mines, of which are deep-seated and run under the sea, t a higher rate, averaging eight and a half pesos, he Loreto mine in Punta Arenas, where workers scarce, pays its employés nearly twelve pesos .

ilean coal miners work only 280 days in the year, onditions are not always acceptable and there have from time to time serious strikes; the last, occurat the beginning of 1922, was said to be mainly nted by the considerable foreign element.

nong the remaining coal companies of importance he Cia. Carbonifera de Lirquen (Penco); the Cia.

Curanilahue Coal Mine, Arauco Province.
Dulcinea Copper Mine, Copiapó Province.
Chuquicamata Copper Mine, Antofagasta Province.

upper Bio-Bio, are deposits of petroliferous shales, upon which a big industry will some day be founded. The most hopeful reports suggest the presence of a great oil-bed, but it is undisputed that the superficial layers or *capas* yield 5 to 6 per cent of petroleum, the lower part of the bed yielding 12 per cent. In Scotland a percentage of 5 per cent is considered good enough, and the development of the prosperous North British industry could no doubt be duplicated in Chile — with adequate transport facilities. Manifestations of petroleum have been also identified farther south. Don Salustio Valdes, an enthusiastic Chilean mining engineer, considers that the most promising deposits are in the Province of Llanquihue, at Carelmapu, where the Cia. Petroléos del Pacifico has acquired territory; in Magellanes Territory, near Punta Arenas, where the Sindicato de Petroléo de Agua Fresca is operating; and on Tierra del Fuego, upon the north shore of Useless Bay. Natural gas escapes in considerable quantities in all these regions.

Borax is produced by a British company from a wonderful and beautiful lake-like deposit at Ascotan, on the Antofagasta and Bolivia Railway almost at the Bolivian frontier. Nearly half the world's supply comes from Ascotan, the pre-war export of Borax Consolidated averaging 40,000 tons, a quantity subsequently reduced owing to the imposition of a heavy export tax and high freight rates. The deposit lies at an altitude of over 12,400 feet with temperature ranging from 24 degrees below zero (Centigrade) and 32 degrees above, so that this well-organised company works under climatic difficulties accentuated by high winds, rain and snow.

Sulphur is abundant in Chilean mountains from north to south, a few thousand tons being annually

CHAPTER VIII

AGRICULTURE

Area under Cultivation — [illegible] — [illegible] ing in Central Chile — [illegible] — [illegible] Orchards and Sheep Farms — [illegible]

"AGRICULTURE in Chile [illegible] their population [illegible] tinguished almost all [illegible]" wrote David Barry in [illegible] *Secretas* in 1826.

I think that [illegible] will dispute the [illegible] contributed [illegible] white European [illegible] nificent temperate [illegible] homes and [illegible] hunter. There is [illegible] region of Chile [illegible] that is extra[illegible] is still but [illegible] dreds of miles [illegible] primeval forest [illegible] where the farm[illegible] hut. But [illegible] blossoming [illegible] with their sleek [illegible]. The holdings may be [illegible]. Chile possesses mines, but they [illegible] rather than create populations; growing industries — weaving factories,

produced, chiefly for the use of the copper mines; l
cobalt, nickel, aluminium, graphite and bismuth
exist in the highly mineralised north; deposits of
ganese are worked on a small scale near Mercedit
the interior of the Province of Atacama.

CHAPTER VIII

AGRICULTURE

Area under Cultivation. — Oases in the Desert. — Farming in Central Chile. — Vineyards. —Wheatfields, Orchards and Sheep Farms. — Irrigation Canals.

"AGRICULTURE in Chile and Buenos Aires has formed their population, while the mines of Peru have extinguished almost all the Empire of the Incas." So wrote David Barry in his preface to the *Noticias Secretas* in 1826.

I think that no one who knows Chile today will dispute the suggestion that her fertile soil has chiefly contributed to her social well-being. It has brought white European settlers, able to rear families in a magnificent temperate climate; it has offered permanent homes and not a temporary field for the fortune-hunter. There is a spring of life about the farming region of Chile, a sense of energy, health and freshness that is extraordinarily exhilarating. Much of this land is still but newly opened: one may pass through hundreds of miles of land where the tree-stumps of the primeval forest still stand among the vigorous corn, where the farmhouse is but an impermanent thatched hut. But the dark rich earth, the lusty crops, the blossoming orchards and hedges, the green pastures with their sleek cattle, create a scene of genuine content. The holdings may be new, yet they are plainly homes. Chile possesses mines, but they drain rather than create populations; growing industries — weaving factories,

mills, and a score of new employments which tend ncentrate wealth and culture; but it is in her g lands that the truest cradle of the race, the st and strongest people, the most cheerful is found.

ctual figures the amount of land under cultiva- Chile is not immense, yet the farmlands produce ly sufficient grain and fruits to serve the needs of habitants of both fertile and arid regions but also surplus to the exterior markets of Peru, Ecuador olivia.

ernment statistics add up the total of land as- to "agricultural properties" or farms to 18,000,- ctares, or about 45,000,000 acres. But not all nd is under cultivation. The area devoted to , beans and peas, potatoes and vegetables, is ed as about 4½ per cent of all Chilean territory, ,000 hectares, equal to two and a half times as acres; vines and orchards, 111,000 hectares;

The great, diversified and topographically fantastic Territory of Magellanes, comprising 71,000 square miles, has little to offer to the agriculturist.

Sheltered country as that in the vicinity of Punta Arenas produces certain field crops, while the limit of cultivable land both in Eastern Patagonia and upon the islands of Tierra del Fuego, Navarin, Brunswick, and other smaller groups, has not been reached with the establishment of sheep farms; but the barren and rocky lands on the borders of many channels, where blue glaciers creep to the edge of the water, and that part of the Strait region where the freezing gusts of the "williwaws" bend the heads of the drenched forests, is outside consideration until the climate changes.

Also beyond the vision of the farmer are the widespread, sun-scorched and waterless districts of the three northerly provinces of Atacama, Antofagasta and Tarapacá, covering more than 95,000 square miles of land: as well as most of the 9000 square miles of Tacna, whose final ownership is still undetermined. The third considerable region which is apparently destined to remain uncultivable is that of the rugged and broken foothills and heights of the Andean slopes of eastern Chile, where nothing lives but wild mountain birds and the hardy guanaco.

Reckoning in hectares, Magellanes counts an area of 3,214,000 hectares, or about 8,000,000 acres: yet only 133 hectares were under crops in 1919. At the same time the Island of Chiloé, with a surface of about 8600 square miles, had only 75 hectares in cultivation. As between the too-dry lands of the north and the too-rainy country of the south, agricultural advantages lie with the former, for wherever irrigation is possible the natural disabilities are at once overcome, and the rainless belt becomes magnificently fertile. The agricul-

of the Chilean lands below Puerto Montt is sel-
ble to risk planting a cereal crop, for even should
eavy rains not affect the fields adversely, the
must be gathered green lest wind-storms should
he ripened seed away. However, the discovery
last few years that certain types of sheep (usu-
oss-bred Romney Marsh varieties similar to those
in the Falklands) thrive in Chilean Patagonia,
del Fuego and other once-despised Magellanic
has brought about an agreeable transformation
agricultural industries, as in the revenue and
ation of the far south.

Oases in the Desert

haps it is partly because they stand out in such
contrast with a barren background that such
rn valleys as that of the Lluta, with pretty Arica
at its mouth, appear to be of such enchanting

ancient arts; before the day of Spanish occupation irrigation was extensively practised, and we know from the large burial grounds discovered near what are today small villages that certain parts of the arid country formerly supported considerable populations — as at Calama, at Chiu-Chiu, or at Arica itself. The desolation of former cultivated districts is sometimes ascribed to the war-expeditions of the Incas, sometimes to the destruction of irrigation works by the Spaniards, sometimes to the action of earthquakes which have diverted rivers from their original courses, and is certainly to be atributed in many cases to the character of the streams, rushing from mountain heights with tremendous force, washing away fields and defences, and leaving wide, stony and sterile beds to mark their ruinous course.

Tacna province, with Arica as the port and Tacna City as the capital, is looked upon hopefully today as a source of supply of sugar and cotton for Chilean mills; both these commodities are now imported. With sufficient water, this little province of 40,000 inhabitants can produce also enough tobacco for Chile's internal consumption. The Sociedad Industrial Azucarera de Tacna, formed at the end of 1920, hopes to plant 8000 hectares in sugarcane, to obtain from the harvest of each hectare ten tons of sugar, and thus to fill the Chilean demand for 80,000 tons of sugar per year. Apart from this enterprise, whose results are awaited with interest, a number of small landholders already produce a little sugar, and find a ready sale for the almonds, olives, walnuts, peaches, figs, green fodder and vegetables cultivated. The splendid cotton of Tacna province is eagerly purchased by South Chile's mills, but the export is small as yet, amounting only to a few hundred tons annually; there is every induce-

o immense extension of the cultivation of this
nd when present plans to canalise the waters of
lina River and of Lake Chuncara are completed,
le province will multiply its 230,000 hectares
der cultivation.

pacá Province is curiously situated as regards
ion; to the north a few rivers reach the sea, as
, but from Pisagua southwards the great nitrate
like an immense dry lake parallel with the coast,
dozen little rivers flowing down from Andean
s disappear in the desert sands long before they
ne eastern edge of the nitrate pampas. But each
these rivers is a green ribbon of fertility, and
cá ships its luscious oranges to the nitrate
and by train all the way to Pueblo Hundido
ama.

fagasta's one considerable river is the Loa,
to strong floods, but irrigating small fields all
y. There are but 121 farmers in the whole
e of 46,000 square miles, cultivating less than

Coquimbo Province is generally regarded as the northern limit to general farming; it is a small province, including only 13,500 square miles, shouldered by the Andes that here push down within eighty kilometres of the Pacific Ocean, but it is prosperous and enterprising. The population is about 250,000, of whom 4500 are farmers; of the remainder the great bulk are interested in mining small veins of copper, an industry which has been handed down for generations as a kind of technical inheritance in northern Chile. I know a Coquimbo farm, excellently managed, situated a few miles outside Coquimbo Port and its older sister, La Serena, which is a revelation of what can be done under the difficulties attendant upon almost constant drought — for the rainfall does not usually attain two inches in the year — and a temperature which remains steadily at about 60° Fahrenheit. The livestock were, in the period of greatest heat, driven eastwards to the hills, many landowners upon the coast following the system of buying supplementary land in the cordilleras in the hope of finding at every season a few patches of pasture. John McAuliffe is one of those Britons who identify their fortunes with those of Chile, and forty years' residence, with experience of ship-building, mining and farming, has made the genial owner of San Martin a resourceful producer and distributor.

Coquimbo Province possesses 1,500,000 hectares of land devoted to agriculture, of which 20,000 are irrigated and about 25,000 are "artificial" pastures. Vineyards on a commercial scale, orchards of figs and other sub-tropical fruits, as well as fields of wheat, maize and barley, produce a surplus exported from Coquimbo.

Farming in Central Chile

h of this province Central Chile begins. Acon-
Valparaiso, Santiago, O'Higgins, Colchagua and
are among the most delightful regions in the
with a perfect climate, fertile land, access to
s, and employés who are not yet impressed
e views of the I. W. W. which have troubled the
of Chilean industry so effectively during recent
It has been the writer's good fortune to see
ing of the life upon several estates devoted to
farming and livestock, upon fruit and alfalfa
and upon one of the finest vine-growing and wine-
properties in Central Chile. I cannot imagine
agreeable life than that upon these estates.
e first example, the lands are situated upon the
gua River, extending from this barrier in a half
nclosed by a horse-shoe of wooded hills. The
s a typical Chilean watercourse, widespread,
nt, spreading into five or six branches on a wide

oranges, pears, plums, celery — in fact, all fruit and vegetables that grow in temperate or sub-tropical zones. The lawn edges are gay with roses and iris, chrysanthemums and lupins. All the flat lands are fertile: no fertilisers are needed, but leguminous crops are grown in rotation with cereals. The milk of the Chilean cows is first-class in quality and produces cheese — made daily by the simplest process — that finds a ready sale in local markets.

The hill lands, invaluable upon a Chilean farm, offer plenty of food for the young cattle in winter. Within a few days after the first heavy rains the brown slopes turn green, and the cattle are driven up to crop the new carpet of young grass. The woodland yields sufficient timber to supply the domestic needs of the *patrón* and the *inquilinos* (farm hands working upon a special system), but there is no growth of big trees. The graceful, evergreen quillay is the base of quite a considerable industry, for the bark is highly saponaceous, and, stripped and dried, is sold in all the public markets in Chile. The maiten, another thick little tree, is also cut for firewood; the litre offers useful lumber when of sufficient size. Down by the water stand rows of familiar willows, their branches draped with the scarlet flowers of the parasite quintral; and on the slopes are scores of bunches of blue-green dagger-shaped leaves enclosing a stalk crowned with a violet flower-head. This is the chagual, whose young stem is eaten in springtime, a lovely period when pink wild lilies clothe the rocky slopes and a myriad flowering trees and shrubs scent the clear air. Many of the aromatic leaves and barks for which Chile is famous are used to make medicinal decoctions, beloved of the working classes.

Adjoining this property is another fine farm, also operated by an energetic country-loving Briton; here

s and other citrus fruits are grown in well-kept
ds and the fields are given over to alfalfa and
grown in rotation with root crops. Chile has no
r advocates of her attractions than the owners
ebrada Redonda and its neighbour, but both
s lay stress upon the need for personal attention
ry detail and constant residence upon the prop-
even with the best *mayor-domo* performing the
of a farm bailiff or estate steward. It is also
sised that Chilean lands are not for the worker
ıt capital. In this coveted region, in fact, costs
gh, as the following data, owed to Mr. Geoffrey
ll, demonstrate.

average cost of good irrigated land, near the rail-
n the Central Valley (from Aconcagua to the
) is about 4000 paper pesos per *cuadra* of some
res: or say £50 per acre with exchange at twelve
to the peso. To this should be added £50 per
for the purchase of horses, cattle and imple-
and another £50 per cuadra should also be

example, yield 300 bags (of 100 kilos each) to the cuadra, and bring fifteen to twenty pesos per bag in the Valparaiso markets.

Animals can be kept out of doors all the year round, and the stock-fattening and dairy businesses are both good. Fruit cultivation, apart from such good carriers as lemons or oranges, is not recommended, since quick access to markets is lacking and selling organisations do not exist.

In order to buy, stock, equip and operate a farm and to wait a year for returns without inconvenience, a farmer taking up land in Central Chile should have £15,000 ($75,000 U. S. currency). He needs at least fifty cuadras, or 200 acres, of irrigated land, as well as some wild bush, preferably hill country. Workers are never abundant in South America, but the *inquilino* system retained in Chile tends to keep generation after generation upon the soil, and no good farmer lacks help in spite of the higher wages offered by the mining industry. Attacks have been levelled against the inquilino system, yet it works well in practice when estate-owners are just and a personal interest taken in the worker's welfare. The men live upon the estate with their families, are given a cottage rent free, a strip of land of generally one or two acres, and sometimes the use of ploughs and other farm implements; a horse and a few domestic animals are usually owned. One pound of bread and one pound of beans are given daily, cooked if so preferred, and one peso per day in cash. On the farms visited by the writer the houses of the farm hands were sound and clean, and the families appeared cheerful and content; I heard warm praises of the Chilean worker from employers.

The life of a farmer in Chile, it was generally agreed, is pleasant; constant attention is required, but rewards

fficient and the delightful climate compensates ny difficulties. The open-air life, constant horse-iding, and the sense of freedom in a country not lensely populated, attract many Europeans, ting nothing more than the absence of certain of sport. There is fair fishing, for instance, in st streams from the Cordillera, but there are no ng fish; no hunting, but good shooting in wooded n country. The partridge and tortolita fly well st, and give almost as good sport as grouse; snipe uail are also to be found in the central regions.

Vineyards

his same region of the Aconcagua Valley are some best vineyards and wine-making estates in Chile. reat Panquehue property, one of the Errazuriz s, is a magnificent sight with its endless rows of d vines bearing white and black grapes, stretching the rich brown lowlands to the foot of the Andean

the huge vats looming high in the semi-darkness beneath a succession of great arches. This estate, with its enormous and luxurious house of the owners, its settled population of workers, its self-supporting crops and fine livestock, has almost a feudal atmosphere. Altogether, Chile has 90,000 hectares, or say 225,000 acres, under grape culture, about ten times as much as California in her pre-prohibition days.

While these vineyards of the central provinces are in very fine condition — extending west from Santiago to within sight of the sea on the beautiful slopes towards Valparaiso — the real heart of the grape country is farther south, where also lie the great food-producing regions of Chile. The great grape country is spread over Curicó, Talca, Maule, Linares, Ñuble and Concepción provinces, while the wonderful valley of Lontué is one great vineyard, with over 10,000 acres under cultivation. Estates follow in a long succession, some able to boast of model villages for workers and thoroughly up-to-date methods of wine-making. The product of Lontué is sold not only throughout Chile, but is shipped to Argentina, Peru and Colombia. "Dry" laws in Chile, advocated by Dr. Fernando Peña, do not seem likely to cause the extinction of viniculture here, if only for the reason that the use of wine is scarcely ever excessive among the native workmen, or in the educated classes. The industry is extremely important to Chile, is chiefly in the hands of Chileans-born, and represents a very large investment; these considerations would not, however, preserve the vineyards ultimately if the effect of their existence were pernicious. The facts appear to be against any idea of this kind.

South Americans in general inherit the temperate habits of the Latin, and when strong liquors cause

ble amongst such closely crowded groups of workers
ne finds in the northern mines, badly made spirits
not wine are to be blamed. Against the disembar-
n of imported spirits the workers of the north rose
ms, in 1920, procedure echoed in Punta Arenas a
later, and an investigator sent to the spot by the
urio of Santiago reported that for every pint of
southern wine sold in Taltal, there were twenty
of noxious alcohol — much of it made on the spot
nateur stills.

Wheatfields, Orchards, and Sheepfarms

real culture, whether of maize, wheat, barley or
grains, exists throughout Chile, but from Co-
bo to Chiloé are the great fields of *trigo blanco* and
candeal — the latter, hard wheat, grown chiefly
20,000 acres in the north of the Central Valley,
the former upon 1,000,000 acres, chiefly in the
nces of Maule, Linares, Ñuble, Concepción, Bio-

acres each; 25,000 others farm holdings of less than 500 acres; 5000 estates are between 500 and 2500 acres in extent; and only 465 proprietors are possessed of estates totalling over 12,000 acres.

To create these southerly farm lands great forestal areas have been necessarily denuded, and a good deal of work is required to keep down the luxurious growth of creepers, wild bamboos, ferns and undergrowth. But the southern agriculturist is spared the constant preoccupation of the northerner as regards water supply. Chile has little marsh or swamp country today, although the presence of large peat beds is eloquent of ancient bogs, but the south is very well watered. Too well watered, in fact, in some localities, Valdivia's 115 inches of annual rainfall being well outdistanced by Chiléo's 134 inches; the genial softness of the climate saves these localities from the unusual unpleasant effects of such heavy rainfalls, for if it is almost true that in Valdivia it rains every day, it is also true that the sun shines every day.

Between the Maule River and Lake Llanquihue the whole country of Chile is like familiar ground to the traveller from well-tended countries of Western Europe, an impression specially keen in Chile's autumn, March and April. Orderly apple and cherry orchards stand bordered by hedges hung thick with ripening blackberries; long level fields show the tender green of clover. Beside the rose-clustered farmhouse are neatly built stacks of wheat straw; in the meadows are fine sleek cattle and well-groomed horses. The fenced garden is full of flowers, of vegetables and herbs, and behind the house is a grove of walnuts and chestnuts. The farmer riding along a muddy road has the ruddy cheeks of the temperate zone, and the only strange note is

k by his poncho and long jingling spurs. Rows
ll poplars, burned golden, edge the fields. As
ground to this ordered fertility there rise to the
the shining, silver-white heads of volcanos —
na, Villarica, or Antuco, or, farther south, Osorno
Calbuco — and from the lines of dark forest there
eep and silent rivers. The south is remarkable in
ssing three navigable rivers, the Tolten, Imperial,
Valdivia; the Bueno is also traversed by small
ers in part of its course from Lake Ranco and is
nnel for farm produce.

heat is harvested in the south at the end of March,
n May apples and pears are still being gathered
uts are ripe. The big crops of strawberries, plums,
herries are sent to jam and conserving factories,
Chile supplying the whole of the West Coast with
d fruit, while the export of fresh fruit to New York
London is a new industry with bright prospects.

uth of Temuco the land is seen in three stages

a neat wooden fence. Rows of young fruit trees display slim twigs beside the farmhouse, and this already has its chicken-run, dove-cote, stable and pleasant meadow for horses and cattle. A chain of sawmills is seen in this lately redeemed country with its thick reserve of forest lands.

Between Valdivia and Puerto Montt lies a great potato-raising country; the land flattens out from Osorno to the edge of Llanquihue Lake, and here hundreds of well-managed farms flourish; a large proportion of the settlers possess German names, and their forebears brought with them, seventy years ago, the craft of the farmer. Today the population is Chilean. Farther south, upon the island of Chiloé, another group of foreign origin operates farms beside the native Chilotes: after the South African War ending in 1903 a number of Boers came here and, in spite of the marked difference between climate and conditions of the Transvaal and South Chile, remained and prosper.

Chile feeds about 5,000,000 sheep, of which number 2,000,000 have been raised in the far south, in the Territory of Magellanes; 2,250,000 head of cattle are distributed throughout the country — Tarapacá and Antofagasta owning about 600 head between them, while Tacna has 2500 — but by far the largest number, 2,000,000, are grouped in the provinces below Valparaiso. The country supports also about 400,000 horses, 55,000 mules, and 300,000 pigs. The wool clip of Chile averages 170,000 metric quintals, four-fifths of the total coming from the Territory of Magellanes.

Among the small farming industries of Chile are bee-keeping and flax-production; a little olive oil is made in the more northerly provinces, and the dried raisins, peaches and apricots of Huasco have earned much more than local fame.

e rise of sheep-farming and allied industries in llanes Territory is one of the great surprises of ntury. Punta Arenas itself, founded on paper by lent Bulnes in 1843, and tentatively settled in was for a long time nothing but a penal settle- but a rising of the convicts drew attention to gion, the discovery of gold reefs and coal beds, as as petroliferous shales, brought a number of en- sing people, and by 1897 the first flock of sheep, ht by the governor Dublé Almeida twenty years ously, had multiplied so fast that the territory ed 800,000 as the total flock. It was difficult d a use for the sheep, and by way of solving this em the first packing-house was established in 1905 o Seco, about ten miles from Punta Arenas.

ur *frigoríficos* are now in operation, at San Gre- Bay, at Puerto Bories (Ultima Esperanza) and es Puentes, in addition to the first established. g the war the packing-houses exported meat cts (frozen and conserved meat, fats, etc.) worth

Irrigation Canals

Irrigation canals have been in use in Chile for hundreds of years, those constructed by private estate owners watering a total of over 3,000,000 acres. Several of these are ambitious constructions, those diverted from such well-supplied rivers as the Maipo and Aconcagua extending in certain instances for over one hundred miles.

The great O'Higgins built a canal ensuring Santiago's water supply 150 years ago: a continuance of this wise policy of Government direction in a matter of national importance has been advised by many thinkers in Chile, but it was not until the closure of nitrate enterprises in 1914 forced the Government to find employment for surplus workers that irrigation laws were added to the Chilean code and bonds issued to finance the construction of four important canals. In early 1915 the creation of a new section in the Public Works Department inaugurated a period of great activity in the work suggested, and by the beginning of 1921 the Manco Canal drawing water from the Aconcagua was already completed, its forty-five miles of main length bringing water to nearly 8000 acres of land. The cost of construction was 2,000,000 pesos paper.

At the same time work was begun on the Maule Canal, drawing water from the Maule River; it is 115 miles long, irrigates 113,000 acres, and was built at a cost of 8,500,000 pesos; its completion represents an engineering feat upon which Chilean engineers are to be congratulated. A fall created by one of the branches of this canal offers 20,000 h.p. to users of hydraulic force in Chile.

The Laja Canal diverts water from the river of this

, has a main length of 25 miles with distribution
s of 240 miles, and is lined with concrete for ten
of its course where sandy soil is traversed. It is
lated that this canal serves 110,000 acres of land.
Melado Canal, drawing water from the river of
ame name, is fifteen miles long, and irrigates
o acres.

e Public Works Department also plans construc-
of canals drawing water from the Culenar River,
igate 12,000 acres; from the Nilahue, to irrigate
o acres; and from the Colina, to irrigate 10,000
while businesslike schemes for damming and
ng the water of seven of Chile's string of snow-
nountain lakes in the south are also under way.
his work is due for completion by 1925, while
es of the strange rivers of the north that flow
the Andes and bury themselves in the sandy
ts long before the sea is approached have also
energetically carried on, with a view to salving
much-needed waters. Don Carlos Hoerning,

new laws were drafted to reach the owner of large areas of uncultivated — and, if without water, uncultivable — land. When the newly inaugurated system is in full working order Chile should have at least 100,000,000 acres under the plough.

CHAPTER IX

FOREST AND WOODLAND

t. — Beech, Conifer and Bamboo. — Trees in Northern and Central Chile. — Plantations.

ILE'S heavily wooded country lies in the rainy , and stretches from the stormy islands about Horn through the long archipelagos and the nces of Llanquihue and Valdivia, the forests ally thinning out as they run northward through d Araucanian country. The province of Cautín last stronghold of deep forest.

ogether, the tree-covered area of Chile is estimated ,000,000 hectares, or about 37,000,000 acres; but st two-thirds of this quantity must be left out

tween the trunks. Up to the present the trees which have proved most useful are conifers, as the alerce, used for centuries by the native Indians for their canoes; the "Chilean pine" (*Araucaria chilensis*), yielding a big cone-full of kernels not unlike chestnuts, which must not be confounded with its kin, *Araucaria imbricata*, the "Monkey-puzzle" tree; the tall lumo of Chiloe, used for shipbuilding, and exported to Liverpool before the war; and two varieties of the native "roble," which are not oaks, as this colloquial Spanish name suggests, but varieties of beech.

The evergreen beech (*Fagus antarticus*) flourishes in Magellanic territory, and with its kin the deciduous *Fagus betuloides* and the cypress (*Libocedrus Tetragonus*) stands along the borders of Magellan Strait and on the glacier country of the deeply scored waterways extending northwards; its habitat does not extend north beyond the Chonos Islands, or about 45° of south latitude. All about Punta Arenas this beech is of great service, is used for house construction and boat-building, and still exists in large stretches of woodland. The famous Winter's Bark (*Drimys Winterii*), a beautiful tree whose aromatic-scented bark was noted by the earliest travellers, is also used locally. Many of the shouldering green heights that edge the Strait are clothed almost to the summit with trees that, changing to burning yellow and orange tints by the month of April, glow from the mists, their lower trunks thick with ferns.

Two wild bamboos of South Chile are common — the small climbing "quila," and the "colihue," sometimes growing thirty feet tall, and congregated in great social tracts known as "colihuales." Characteristic woodland of the Valdivia region is tangled with these bamboos, with thick ferns, and with such creepers as

ovely *Lapageria rosea*, with its waxen pink or flowers that retain the Indian name of copihue — ational flower of Chile, and the no less beautiful sia.

e handsome conifer called alerce (*Fitzroya Patagonica* Hook) grows in extensive woods or "alerzales" e Llanquihue region, its base deep in ferns, the ly-berried berberis (*Empetrum rubrum*) and other bearing shrubs, as the *Myrtus nummularia*. From berries the native Indians made their fermented "chicha" in the time before Spanish soldiers nissionaries brought European fruit-trees to South ; today apples are chiefly used for the same ose.

e alerce frequently grows to a great size. Dr. . Espinosa, visiting the regions of its greatest occnce in 1917, measured conifers of this variety reached 115 feet in height, with a trunk diameter, ree feet from the ground, of four and a half feet.

the canelo are not equally social in habit, but grow in mixed woodland and are therefore not commercially available to a like extent. The latter tree, the "Chilean cinnamon," has a scented bark and is sacred to the Araucanians, whose main festivals and ceremonies were traditionally held under the shade of the canelo's branches.

Forty per cent of the whole territory of Magellanes is estimated as forest: Llanquihue, Valdivia and Cautín possess a smaller proportion, for much magnificent woodland has already yielded to the axe of the settler, but there is still in all about 20,000,000 acres of timbered land south of the Bio-Bio River. Beyond Araucania the thick forest of the south gives place to light woods, with no large trees and none that are tall except the imported poplar, commonly known as the "alamo." All about Concepción the thickly-leaved little boldo is seen, yielding only small timber but much prized for the medicinal value of its leaves, from which "boldaina" is extracted; the thickets are full of the slim avellano, producing a nut closely resembling the hazel.

The wooded areas of the central region, especially in the well-watered parts of Aconcagua, O'Higgins, Valparaiso and Colchagua, are well supplied with lingue, maitén, litre and quillay. The bark of the latter is highly saponaceous and is sold in every Chilean market, but few of these trees yield planks large enough for construction purposes, and are chiefly useful as fuel.

The northerly, more arid country above Illapel frequently shows nothing but a thorny scrub of the mimosa family; one of these, the algarroba, is prized as a shade tree and for the green pods it produces, an excellent cattle food. When brown and dry, these pods yield a tannin used in curing skins, almost identical

he divi-divi of Venezuela. Beyond Coquimbo he thorny scrub and cactus disappear, and in dean heights of Tacna the only fuel that offers strange growth, like a mammoth fungus, the that must be dried for over a year before it will

thus plain that North and Central Chile, where bulk of the population of the country, cannot their own needs for lumber; it is from the outherly habitat of the alerce, the coihue and the n pine that vast quantities of wood for industrial mestic use must be sought. Sawmills begin to e side of the railroad soon after the Bio-Bio is on a southerly journey, and immense piles of anks and logs stand beside the line all the way rto Montt. Immense tracts of forest are still hed for lack of adequate transport, although the mation of Chile, and the large number of rly rivers and lakes, help to render the problem

of certain southerly areas has been beneficial to the climate: that the Valdivia and Llanquihue region have been less lavishly endowed with rain and rendered more agreeable for settlers in consequence.

A few enterprising land owners have begun to replant woodland, growing plantations of spruce and eucalyptus for preference; for Chile is a hospitable host to all plants and trees brought from temperate zones.

A great deal has been said concerning the suitability of the South Chilean forests for making paper pulp, but up to the middle of 1921 no manufacture has been commenced. Expert opinion has proposed new plantations of eucalyptus, etc., owing to the non-social character of Chilean timberlands. Were the Chilean conifers more closely grouped the problem might have been solved long ago. Suggestions for utilising extensive thickets of bamboo, the colihue, have also been without result up to the present, but the recent careful investigations of a Swedish firm will, it is hoped, bear fruit. The south has plenty of water-power and easy access to sea or rail, two important points to be considered in connection with manufacturing industries.

CHAPTER X

COMMERCE

Factories. — Chilean Market Needs. — Sales to ign Countries. — Foreign Firms in Chile. — le-marks.

position of commerce in Chile is better under- vhen it is realised that the country has no tropical ts for sale. Apart from the extreme north, where precious water redeem the preponderant desert, here varying quantities of cotton, sugar and s are grown, farming is on a par with the farming tern or south-western Europe, or the temperate of Mexico. Chile has a surplus of wheat, cattle

the big development of the sheep-raising industry, with a view not only to supplying the non-pastoral north, but selling a surplus abroad. The wool produced, and formerly exported, is likely to be entirely absorbed by home weaving factories, to which an important addition has been recently made at Valparaiso.

Of great help in Chilean industrial development is the Sociedad de Fomento Fabril, and the work of three Government industrial schools, at Santiago, Chillan and Temuco, turning out electricians, chemists, blacksmiths, carpenters and other technically trained students.

A country with a temperate climate, hardy population, possessing plenty of fuel and offering securities to foreign capitalists and business firms, is likely to prove an inviting ground for the creation of factories; certain parts of Chile, in consequence, are developing home industries in a manner comparable to that of South Brazil.

A good start had been made before the European War, but as in many other South American regions the pressure of necessity brought about a remarkable and speedy industrial growth. Deprived of big quantities of manufactured goods, Chile increased or built national mills, and can today produce a remarkably long list of the goods she needs. Home utilization of raw materials of course tends to limit Chile's export lists and, diminishing her income from overseas, narrows her capacity for purchases in foreign countries, rendering her still more dependent upon nitrate exports for national revenues.

Chile's beds of good coal, with the addition of immense forestal areas offering lumber, and, also in the south, considerable water-power resources, form a sound basis for manufacturing. Below the river Aconcagua factories are thickly dotted, and south of the

CHILE: TODAY AND TOMORROW

e is a 600-mile stretch of country where new indus-
towns lie like beads on a string, following the rail-
track. Altogether, the large and small factories
ile number twenty-seven hundred, counting every
try from Tacna to the Straits of Magellan; the
of important establishments employs 70,000
e, of whom 40,000 are men, over 17,000 are
n, and over 5000 are children less than fourteen
old. Another 8000 people are employed by little
tries. The value of the merchandise produced by
factories increased by nearly 50 per cent between
and 1919, the latter year registering the manu-
re of goods worth more than 765,000,000 pesos,
an paper. At an exchange value of twelve pence,
s equal to over £38,000,000. Santiago province
d the list with manufactured produce worth
00,000 pesos, Valparaiso following with 163,000,-
nd Concepción coming third with 68,000,000 pesos.
luded in this output are metal goods, furniture,
and tinned fruit: wines, beer, mineral waters,

At Constitución, South of Santiago.
San Cristobal Hill and Parque Forestal, Santiago.
Malleco Bridge, near Collipulli.

quiring at Penco why at least a proportion of the excellent brown sugar imported could not be distributed in that condition, and at considerably lower cost to the consumer. When the refinery was erected it was hoped that it could be exclusively supplied with raw material from local sugar-beet farms, and the failure as yet to produce these crops in quantity is emphasised by the retail price of sugar in Chile — fifteen pence per pound in 1920.

Also near Concepción, a few miles eastward following the curving banks of the silver Bio Bio River, is a British-owned and operated cotton-cloth factory turning out an average of 1,000,000 yards yearly, and working 276 looms. The machinery is British and yarns are imported from Manchester. All through the agricultural south are flour mills, of which half a score are owned by British firms; some of these installations are small and antiquated, but sixteen or more are equipped with the best modern machinery. As a result of this milling activity, Chile imports but little wheat flour, and this chiefly from Argentina to serve as a blend, her home mills practically supplying the whole of the country and leaving a surplus for export amounting to nearly 24,000 metric tons annually. The best customers for Chilean wheat flour are Bolivia (17,000 tons), Peru and Ecuador.

Concepción with its coal mines is fortunately placed for industrial development, and this with other similarly endowed regions and well-wooded and watered parts of the populated south are fast building up a list of manufacturing enterprises, most of them based upon local products. They are rapidly meeting home demands. The foreign visitor in Santiago has frequently received a surprise when permitted to see the extremely efficient Government munitions and instrument works,

ing that here is a South American state which is to manufacture almost all the equipment needed s army, from cartridges and rifles to saddles and glasses, the lenses of the latter being the only part ted.

en such a visitor has also seen tobacco and shoe ies, and the soap, candle and soda works of the firm at Valparaiso (supplying, with the sister y at Concepción, one-third of Chile's needs for goods), he will receive another lesson at the model factory at Talca, where the well-being of workers eptionally well studied and a crêche for the chil- of women workers is maintained. He should a point of visiting, at the rich agricultural centre aiguen, a factory where beautiful furniture is , and, following a sight of the sugar, flour, candle s of Concepción, and fruit-canning establishments illan, he will see at Valdivia the most ambitious building yards in Chile, turning out vessels of over tons. Here is also an interesting factory making

building industry, constructing wooden vessels up to 500 tons' burden. A series of scientific chicken farms also flourishes at Punta Arenas; 30,000 hens at Leña Dura yield an average of 200 eggs each, annually: the farm collects 5000 eggs per day, exporting them as far as Montevideo.

An immense impulse will be given to Chile's manufacturing industry when the hydro-electric developments planned during the last few years, and organised in 1921 by the Compañia Chilena de Electricidad, are completed. The creation of this new company is the work of S. Pearson & Son, Ltd., famous for brilliant water-harnessing and engineering in many other regions of Latin America. The Pearson firm initiated its interest in Chile by the purchase of the Santiago tramways which had been in German hands prior to the war, and were later operated by J. G. White & Co., on behalf of the British Government.

Pearson's decided to increase the power at the disposition of the local service, obtained solely from falls at La Florida, a few miles from Santiago, and effected a combination with Chileans of enterprise and engineering ability already holding concessions for big new hydro-electric development, including the Cia. General de Electricidad and the Cia. Nacional de Fuerza Electrica. Work upon the latter's plans was under way at Maitenes, inaugurated by the enthusiasm and skill of Don Juan Tonkin. The Pearson company decided to form a new organisation with capital sufficient to enlarge the scope of the work and to take over, in addition, other hydro-electric plans upon the Maipo and Colorado rivers. Proof of faith in Chile's future was given when Pearson's decided to domicile the new company in Santiago and to add to its assets the properties of the Chilean Electric Tramway and Light Com-

, as well as prestige and financial backing. The company is the Cia. Chilena de Electricidad, alised at £8,250,000, with a debenture issue au- sed up to £5,000,000; Chilean capital is inter- to the extent of nearly three-quarters of a mil- pounds sterling.

nder the enlarged project, the Maitenes plant will ncreased to develop 34,000 h.p.; the increase of xisting steam-plant in Santiago will bring another 00 h.p. into the market; and the development of s for the harnessing of the Maipo and its tributary Volcán at Puente del Cristo means the creation of rge hydro-electric station, capable of producing 00 h.p. When these installations are in working r, Central Chile will possess a force of 140,000 h.p. he disposition of public services, domestic utilities industry; the horizon thus opened is equal to that he biggest manufacturing region of South America, aulo in Brazil, where in the city alone about 30,000

Chilean Market Needs

Chile's market needs are on a par with those of other South American countries so far as manufactured metals, especially machinery, mining and railroad equipment are concerned: in common with her sister states, she is also a buyer of such luxuries as fine textiles of wool, silk, and linen, perfumery and other toilet specialties, fine wines and spirits; also many utilities which she cannot produce, as print and writing papers, highgrade glass and ceramic ware, inks, paints and varnishes, cement, and sheet glass.

The best grades of cotton cloth are also imported, for the existing Chilean factories are limited in class of output; there is a considerable import of ready-made clothes, and of fine footwear, although it is but fair to add that Chile produces the best shoes made in South America and that her daintiest satin and kid footwear for women compare well with the output of the great makers overseas; Chilean red and white wines also outclass the vintages of sister states, but while the wealthy resident has plenty of money in his pocket there will always be a certain import of European champagnes and liqueurs, spirits and high-class wines.

Chile's purchasing power varies a good deal, fluctuating with the fortunes of nitrate. The value of imports during the last few years has swung from 153,000,000 pesos in 1915 to the high-water mark of 436,000,000 in 1918, after which a decline was experienced to 401,000,000 in 1919 and 350,000,000 in 1920. Certain commodities, with coal as the striking example, were almost blotted from the import lists during the European war, and with the encouraging development of the national mines in response to necessity, plus a greatly extended use of petroleum as fuel for in-

rial purposes, its pre-war place is unlikely to be vered.

oking down the lists of Chilean imports, the ten- y towards importing materials in the crude state mply prepared, for working-up in national factories, s an immense increase since 1914; dependence national supplies also increases markedly. Metals rs or pig, worth less than 400,000 pesos in 1914, imported to the value of nearly 5,000,000 pesos in ; at the same time the value of imported lumber ped from nearly 3,000,000 pesos to 1,250,000. The e of live animals imported — chiefly pedigree s and cattle from the United Kingdom and North rica, to improve the already excellent livestock of Chilean farms — went up with a bound at the end e war, totalling 12,000,000 pesos in 1918; the im- tion both of leaf and prepared tobacco shows sys- tic growth; but purchases of foreign meats, butter cheese, show consistent falls.

pound sterling), while material for railways and other transport services costs some 20,000,000 pesos, or about £1,000,000 sterling annually. A fair average for Chilean purchases abroad may be calculated at £20,000,000 or inside $100,000,000 U. S. currency, at normal exchange.

Sales to Foreign Countries

When one turns to the other side of the ledger, to see what Chilean merchandise is exchanged for these imports, the dangerously dominant position of nitrate becomes evident. The total exports rose from 300,000,000 pesos in 1914 progressively to nearly 764,000,000 in 1918 (subsequently suffering violent fluctuations) and of the latter amount nitrate and iodine accounted for over 532,000,000, with another 109,000,000 placed to the credit of "minerales metálicos en bruto," of which the chief if not the sole representative was copper.

Products of livestock farming, chiefly hides and wool, have risen in export value during the last few years, and may be reckoned as worth an average of 35,000,000 pesos; vegetable products shipped out, with cereals predominating, have varied lately between 14,000,000 and 42,000,000 pesos; manufactured foodstuffs (dried or frozen meat, sugar, cheese, flour) have grown in value since 1914 from 7,000,000 to nearly 24,000,000 pesos; 1,000,000 pesos' worth of wine is exported; some pottery, glass and leather; and an increasing quantity of unworked lumber. But none of the farming, metallic, forestal or manufactured merchandise groups show signs of growing ability to equal nitrate in export values. Fortunately, the world needs Chilean nitrate, and there is no prospect of the rise of a rival which could meet the naturally produced chemical in price if drastic and feasible cuts were made in export taxes.

CHILE: TODAY AND TOMORROW

isorganization of world markets since 1914 has ted the imports of Chile not only as regards bulk also origin of supplies. It will probably not be ible for a judgment to be formed concerning the l of trade until after 1922, when the flow of com- e may have resettled into regular channels. The ral effect of the war years was to send merchandise n and south instead of east and west: a big increase rred in the trade relations between North and h America, while the stride in commerce between lifferent South American nations was perhaps even remarkable.

tercourse amongst the sister nations has been de- l in the past by lack of coastal shipping and inter- nal railways as much as by laws of supply and and. It has been frequently said that the different n-American states have nothing to sell to each because they all produce the same class of goods, ing similar commodities only to be obtained from

Colombia and Costa Rica increased their sales of fine coffee (via Panama); Ecuador sent more cocoa and Peru more fruit and sugar — Peru's sales, worth 14,000,000 pesos in pre-war years rising to over 32,000,000 in 1919. Mexico's sales to Chile rose from a few thousand pesos in value to over 7,000,000, during the last six years.

Chile at the same time made big increases in her own shipments to Latin-American countries. Her sales to Argentina rose from 4,500,000 to 26,000,000 pesos at eighteen pence; to Bolivia, from 4,000,000 to 8,000,000; to Peru, from 3,000,000 to 18,000,000; to Mexico sales were doubled during war years. In some cases, as those of Uruguay and Brazil, there have been fluctuations so marked that no conclusions can be drawn: but on the whole the stimulus to inter-American trade has been well sustained.

With the United States a tremendous development of traffic took place. Exports from Chile rose from 86,000,000 pesos in 1914 to 489,000,000 in 1918; at the same time Chile's purchases from the United States, totalling about 55,000,000 pesos in 1914, soared to more than 203,000,000 four years later. In the case of both exports and imports, values were inflated and have not been sustained, although the development of the North American mercantile marine since 1914 is likely to promote a greater share of commerce with South America than was normal before the conflict. It is interesting to note that despite the huge expansion of North American trade with Latin America during war years, inflation in all directions was so great that the proportion of business done by the United States with South America remained the same as it has been for a hundred years — 5 per cent of the total exterior commerce.

A remarkable series of changes has been experienced

e export lists of Chile during her economic life. In
days one of the most important exports appeared
ipping invoices as "Bezoar stones," those curious
etions, forming in the bodies of certain vegetable-
ng animals, which were considered medicinally
t in the Middle Ages. Faith in the Bezoar stone
supplies came from the East to Europe, but after
liscovery of the Americas it was found that the
and guanaco also formed the precious object,
rade grew brisk.

ce upon a time Chile shipped the bulk of her copper
dia, taking Oriental cottons and other merchan-
n exchange; this trade has long been discontinued,
ugh Hindu as well as Japanese retailers are reviv-
usiness with Chile. Up to 1887 Chile was still
ting the skins of vicuña, now vanished from her
nes, and the beautiful chinchilla, also practically
ct in Chilean uplands.

e trade with the eastern side of the Andes in Yerba

more than a hundred years ago; much of the mercantile enterprise, as well as the milling and nitrate refining industry, is indebted to these companies for capital and inspiration. With European alliances also is a strong North American firm, interested in general business, factory development and nitrate, and running a line of steamers between North and South America, while still more recent newcomers are the important Jugo-Slav firms operating all the way from Punta Arenas to Antofagasta, and rapidly increasing their interests in nitrate and other extractive industries.

The largest of the British firms operates sixty branches or agencies throughout Chile, and while importing machinery, tools and agricultural implements, hardware, sacks, rice, coffee, etc., also buys and ships country produce. Another house deals largely in textiles, and a third is chiefly although not exclusively interested in the nitrate country, where in addition to refining and exporting the *salitre*, the firm is a big supplier of machinery, foodstuffs, and all supplies for the town-camps in the nitrate fields.

These large houses do not secure a monopoly of business; side by side are numbers of smaller local firms of various nationalities: but their existence and system of operation is a salient fact in the foreign trade of Chile. The repute of the majority of these strongly entrenched houses stands high; their representatives are men of character and ability, and the organizations have not only created and built up Chilean commerce in the past, but are of great value today. Their services are never more strikingly proved than in such times of stress as those of 1921, when small and inexperienced firms broke under the storm that the big organizations were able to meet with all the strength of long usage and wide credit.

s sometimes complained against this array of im-
able commercial castles that their influence tends
der the West Coast a territory offering but a cold
ne to the newcomer in trade. I have heard the
ishment of the heavy tax upon commercial
lers in Chile charged against the suggestion of the
uses. But even if there is foundation for these
aints, there is something to be said on the other
- for instance, that the old-established firms,
g sown for several generations, are not likely to
husiastic when a brand-new reaping hook makes
pearance. Thinking of their long cultivation of
l, big investment, and big overhead charges, they
t to regard the débutant travelling salesman as a
, and are not extraordinary in looking askance
nprehensive plans launched during the last few
for direct selling to consumers by groups of home
facturers.

a matter of fact Chile is not singular in levying a
tax upon the commercial traveller, and its assess-

costing 1000 pesos; with the paper peso at an exchange value of one shilling, this is equal to £50, so that in order to traverse Chilean commercial towns from Valdivia to Coquimbo the traveller would have to spend £400 or £500 on licences. The consequence is that visits are either confined to a strictly limited number of cities — perhaps, to Santiago and Valparaiso only — or an arrangement is made by which the trade representative carries the business card of a local house, and is thus not subject to taxation, or rents an office in Valparaiso, pays the normal trading tax imposed on all businesses, and operates freely from that central point. Chile does not trouble the temporary visitor with the host of small charges and restrictions that exhibit local ingenuity in many parts of South America during the last few years, and which include prohibitions against the entry of a typewriter except under a heavy tax; permits to depart from the police or port captains; demands for new vaccination and other medical certificates; inspection and re-stamping of passports; charges upon samples and catalogues, and, worst trial of all, removal of baggage to customs-houses for leisurely future inspection. In Chile one is as free of this bureaucracy as in England before the war.

From commercial rivalry, whether between different groups of foreigners or between foreigners and the Chileans who have for the last twenty-five years taken so vivacious an interest in trade, Chile in general is bound to benefit. The effect of time tends to take retail business more conspicuously than wholesale or big import and export trade from foreign hands and into Chilean, not only on account of ability but because a house beginning life as an exotic has often become Chilean through the domestic ties of its founders. The children of an enterprising foreigner who marries, as so many

ners have done, a Chilean wife, are generally an-born and educated, and cling in later life to the ant land of their birth; a rapid naturalization of and of capital is one of the outstanding features ile's economic history.

Trade-marks

e question of trade-marks in Chile is attended by ame difficulties which merchants offering goods manufacturing countries encounter in many young where national rights in discoveries and inven- present few home problems. Broadly, Chilean ives rights in a trade-mark to the first person reg- ng the mark; and it is not unusual for a foreign r or agent, entering the country with some spe- roduct for sale, to find that his emblem has been ly registered by some enterprising and unscrupu- person, who must be bought out if any business be done by the original owner. Litigation has about this matter, but the only safeguard con-

The Post Office, Santiago.
Santiago, with the Snow-capped Andes in the Eastern Distance.
Subercaseaux Palace, Santiago.

CHAPTER XI

TRANSPORT SYSTEMS

Railroads. — The Transandine Line. — Sea Transport. — Rivers and Lakes. — Roads.

CHILE possesses 8600 kilometres or 5375 miles of railways, of state and private ownership that, running throughout her main territorial length north and south, and connected with the sea by a number of transverse lines, serve her better than any other South American country is served.

The rule all over the continent is that the seaports are the chief points where population is grouped and that from these ports railways have been driven inland as pioneers opening new country. Many of the regions thus served are immense, as a glance at the map shows; great fans of steel rails spread from Buenos Aires, S. Paulo and Montevideo, for example. But these lines were built to serve, and do almost exclusively serve, the needs of special localities lying inland from a coastal point, and only in a few instances are these regions systematically linked to the rest of the country.

The construction of Chile's great longitudinal services was forced upon her, luckily, by the peculiar topographical form of this part of South America. All the long folded ribbon of the Central Valley is a natural highroad, and the railways follow very ancient trails.

From Tacna, in 18° of south latitude, lines run almost continuously to Puerto Montt at the edge of the Gulf of Reloncaví in 41′ 50″ of south latitude, a distance of

1500 miles. From this great main artery of touching all the important producing regions of Central Valley, branches run west from thirty dif- points to the Pacific; the length of these connect- nks is short, averaging 30 to 50 miles.

the east a number of small lines extend to serve g or agricultural regions, and three long arms have flung across the mountain barrier of the Andes. f these, the Transandine line, forms the only exist- ilway system connecting the Atlantic and Pacific s of South America, the distance from Valparaiso enos Aires totalling 1444 kilometres, or 896 miles, urney taking two days.

e second line climbing the Andes is that extending Antofagasta to La Paz in Bolivia, 863 kilometres 8 miles. The third also runs to La Paz, from the r Peruvian port of Arica, a distance of 433 kilo- s or 260 miles.

e policy of the Chilean Government as regards

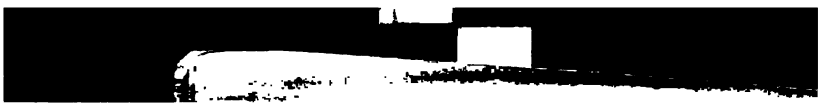
of 1859, held back completion of the extension to Calera until 1861; Llai-Llai was reached in 1862, and the whole line opened to traffic through from Valparaiso to Santiago in September, 1863. A new line is now planned to follow a shorter route via Casablanca.

At the same time that this sea-to-capital link was commenced the Government authorised the construction of a main line running south by a private company, the Ferrocarril del Sur, while in the north a number of railway enterprises were also undertaken by individuals or companies, chiefly with the object of serving mineral regions. The majority of these companies were capitalised in London, although the concessions were in some cases obtained by American promoters such as Henry Meiggs, afterwards well known in connection with Peruvian railroad building, and the genial William Wheelwright. Hundreds of young British and American engineers entered Chile at this period of early construction, while native-born Chileans still lacked technical training, and scores of them remained in the country permanently, settling and founding families. It was a tremendous era of building which lacked coherence but nevertheless was intelligent and forceful; every strip of line had its sound *raison d'être*, served its immediate purpose, and not only marked an industrial movement but remains today as a permanent contribution to the transport needs of Chile.

Actually the first railway line to operate in Chile was the Copiapó line running from that celebrated and then flourishing copper mining centre to the little port of Caldera, 55 kilometres distant. Construction was begun in 1850 and the line was opened to traffic in 1852, the Copiapó railway thus achieving its place as the second oldest railroad in South America. First place belongs to the Demarara line in British Guiana.

the time that the Valparaiso-Santiago railway
ompleted the southerly trunk line had been pushed
as San Fernando, with extensions surveyed to
5 and Talca. Curicó was reached in 1867 and was
otly sold by the private constructors to the Gov-
nt of Chile, already marking out its continued
of state ownership of transportation systems.
about 1870, when both imported and native coal
to come into use, the fuel burnt by the locomo-
of the central sections was Chilean wood, a cir-
ance which was material in helping to destroy
oodland of Central Chile.

the north, Carrizal had a mule tramway running
miles from the copper mines to the sea; it was
eded in 1863 by a steam line. The Coquimbo
y was begun in 1856, afterwards taken into the
system but originally a mining line; as also was
hañaral strip, linking Pueblo Hundido, another
early pioneers; the Tongoy railway, begun in
and running to Ovalle; the line connecting Vilos



the Tarapacá fields reached their farthest southern point. An arrangement was reached for completion with two British syndicates. The Government now controls over 4600 kilometres of line, while private owners control about 4000 kilometres.

The state lines provide comfortable and cheap passenger transport, carrying goods also at reasonable rates. Travel is an inexpensive pleasure, the service is punctual, and equipment good. It is doubtful if more exquisite scenery can be enjoyed anywhere in the world at a like cost. But, like many richer and more experienced governments, that of Chile consistently loses money on her national lines. Only during the busy years of 1915, 1916 and 1917, when depleted steamship service sent more traffic to the railways, did the state lines show a profit. Since the Armistice, losses have been increased, 1919 ending with deficits variously computed at 14,000,000 and 40,000,000 pesos.

Previous to 1918 the private lines always earned profits, but disorganisation of the nitrate and copper industries, together with the low rates sustained, caused considerable entries on the wrong side of the ledger during 1918 and 1919.

With two exceptions the Government lines form a homogeneous network extending north and south and flinging out arms to vital points. But there are two isolated lines. One is the strip on the Island of Chiloé, connecting Ancud with Castro, 98 kilometres long; the second is the Arica to La Paz railway, 438 kilometres in length, joining this old Peruvian port to the capital of Bolivia.

This line is of special political interest, besides presenting a fine engineering feat — for it reaches an altitude of 13,000 feet above sea level. Forty kilometres

n the rack system. The line was built in accord an agreement made with Bolivia after the War e Pacific, the same Treaty that deprived Bolivia r coastal belt promising her a new outlet to the s a seal of peace. The Arica-La Paz railway cost 00,000, was opened to traffic in 1914, and the sec- traversing Bolivian soil, 238 kilometres long, is to me the property of Bolivia in 1928.

e private lines represent an investment of 238,000,- esos of eighteen pence, or £16,800,000, as against tate's capital expenditure of 394,000,000 pesos, or 50,000. The most important group of private are those serving the great nitrate pampas, and argest operators are the Antofagasta and Bolivia way Company. The lines of this English system their inauguration from 1873, extend over 925 netres, of which 482 lie within Bolivian territory, carry traffic from Antofagasta to La Paz at the time serving a great nitrate area. Branches run e salitre of Baquete to Chuquicamata to Conchi

line are best realised when the number of nitrate oficinas utilising the railroad are added up and found to total sixty-nine.

The Taltal Railway Company, Ltd., is another British line, operates 298 kilometres of track of 1.06 gauge, and links the salitre pampas of that part of the Atacama desert lying within Antofagasta province with the port of Taltal. The investment totals £1,050,000.

Also British is the railway connecting a large group of nitrate fields with the port of Caleta Coloso, the Cia. del Ferrocarril de Aguas Blancas, with 221 kilometres of track of 1 metre gauge; the network belonging to the Compania de Salitres y Ferrocarril de Junin, operating 89 kilometres of 0.76 gauge track and serving oficinas near the coast of Tarapacá; the lines of the Cia. de Salitres y Ferrocarril de Agua Santa, uniting nitrate works at Agua Santa, Negreiros and Huara with the port of Caleta Buena, 109 kilometres; and the Anglo-Chilean Nitrate and Railway Company, Ltd., linking the nitrate pampas of Toco with the port of Tocopilla, 122 kilometres in length.

Also of British construction, capitalisation and operation is a short line, dating from 1855, connecting the city of Tacna with the port of Arica, 63 kilometres of 1.43 metre gauge track; and formerly British, but sold in 1920 to the Lota Coal-mining Company is the railway connecting the city of Concepción with the ports of Coronel and Lota and with the flourishing coal mine of Curanilahue. The British owners were the Arauco Company, Ltd., operating 103 kilometres of 1.68 metre gauge track. The line from Los Sauces to Lebu, whose construction was suspended during war years, is also a British enterprise.

Chilean capital and enterprise is responsible for several private lines, as the Ferrocarril de Copiapó,

e first conception was due to Juan Mouat of Val-
so, in 1845. The original line connected Copiapó
Caldera Port, 81 kilometres, but extensions were
vards added to Pabellón, and thence, after acquir-
mule-tramway to the Chañarcillo mines, to Cha-
llo, another ramification running north-east towards
rgentine border but terminating at Puquios. The
e of the line is 1.43 metres, and the length 231
letres. Also Chilean is the Ferrocarril de Carrizal
rro Blanco, uniting Carrizal Port to the copper
s of Cerro Blanco, due east, with a southerly
h to manganese deposits near Chañar Quemada
Astillas and another to the copper mines of Jarilla,
ne terminating at Merceditas. The line with its
hes has a gauge of 1.27 metres and a length of 184
letres.

e Ferrocarril del Llano de Maipo, running betwee
ago and Puente Alto, 22 kilometres, is Chilean
so is the electric line between Santiago and Sa

Argentine frontier, the mountain pass which it is planned to traverse having a height of but 1862 metres above sea level, or not much more than 3000 feet. Within sight of this pass the river Neuquen has its rise, and it has been contemplated to follow its valley south-eastward to connection with the line running from Bahia Blanca.

A Chilean trading and cattle company with head-quarters in Valdivia is constructing a new southerly line, running eastward from the longitudinal station of Collilelfu, about forty miles from Valdivia, to Lake Riñihue: here a line of connecting steamers will carry passengers farther to the east, and a second strip of railway will connect with the lake of Pirihuaico, whose easterly point almost touches the Argentine border. About 40 kilometres of this line is open to traffic.

Far south, running from Punta Arenas to the coal mines of Loreto, is another small Chilean line of nine kilometres.

Of North American construction and operation is a 25 kilometre ore-carrying line between Caleta Cruz Grande and the Tofo iron mines; a narrow-gauge private line of 70 kilometres joining the copper mines of El Teniente (Braden Copper Co.) to Rancagua town; and a link between Pueblo Hundido and the copper beds of Potrerillos. German interests (Gildemeister & Co.) constructed a small line, for the exclusive use of a related copper mining company, from Challocollo to Cerro Gordo, in Tarapacá, with an extension to La Granja, in 1897, 36 miles of narrow-gauge track.

Investment in private lines (most of which are open to the public, but are distinguished from the state-owned railways) is reckoned at a total of 238,000,000 Chilean pesos of eighteen pence, divided amongst British companies, 209,000,000 pesos; Chilean, 24,000,-

and North American, 5,000,000. The German
tment of two or three millions does not appear in
tics of Chile since 1916. The former German-
ted tramways of Santiago and Valparaiso have
d into British hands and are now controlled by
arson & Son, Ltd.

ree new Andes-crossing lines are contemplated in
. Two are planned to the north of Santiago, the
to the south. The latter is already in construc-
as part of the state system, running from Cajón
n, just above Temuco, through Cautín province
ards. The mountain barrier is here below 5000
n height, and negotiation of the Andean section,
extension to the Argentine line running west from
Blanca, presents no difficulties beyond that of
g sufficient capital for construction. Chile's east-
extension will traverse the green fields of the
uimay Valley, crossing by the Pass of Maullin
nc.

since the opening of the Panama Canal rendered the West Coast more readily accessible from the western seaports of Europe and the eastern coasts of both North and South America. It is true that certain overseas commerce is served by the Panama route, exactly as it was encouraged when steam navigation made it possible for seamen to face the Magellanic Strait without misgiving, yet no one with knowledge of the internal needs of South America doubts the necessity for strengthened transcontinental links. Canada, with 8,000,000 inhabitants, built two transcontinental railroads: South America, with 75,000,000 people, has but one direct cross-country line completed.

This single railway from sea to sea — connecting Santiago de Chile with Buenos Aires by a two days' journey of 900 miles — is a remarkable piece of work, owing inspiration and accomplishment to the Anglo-Chilean engineer brothers, Juan and Mateo Clark. It has been open to international traffic as a through line since 1910, its operation stimulating not only the commerce of Western Europe and Chile, but aiding the development of brisk trade between Chile and Argentina. It was a reopening of ancient paths. Before and to a lessened extent during colonial times a score of passes over the Andes were in common use and the interchange of persons and goods continuous. Following Independence and the creation of sharp and sometimes jealous divisions between the republics, the countries were separated as never previously; old transcontinental trails were neglected. This neglect was increased by the interest taken in South America by the rich countries of Europe, the establishment of shipping lines to all the ports of the young communities, and the stream of gold and people directed towards the development of commerce and public services. For

CHILE: TODAY AND TOMORROW

ury each South American state turned its face sea, economically and intellectually. The crea- the Transandine railway was the first deliberate st of the Andean barrier between eastern and n nations of the continent. A few miles of con- on only are needed to connect up Bolivian rail- with the northerly Argentine system. Ecuador ning a link with the Amazonian headwaters to a route for merchandise similar to that of North , with outlet at Pará; but lack of population oduction through vast interior regions has acted terrent against transcontinental plans even more ngineering difficulties. These have been sur- ed in South America in a number of instances, untain-climbing lines of Brazil on the east and of the four countries to the west offering famous es of response to industrial need. But without nd *raison d'être* of Mendoza's flourishing exist- t the eastern foot of the Andes the present

struction of the Chilean Transandine practically adopted the same course from Los Andes to the Argentine frontier in the heights. But this section, although but 70 kilometres in length, presented the worst difficulties and was the last completed.[1]

Three companies undertook construction of the strip between the Argentine frontier and Buenos Aires, 1373 kilometres long. The mountain section to Mendoza (2481 feet altitude) was built by the Argentine Transandine Company; Mendoza to Villa Mercedes (with a branch running north to San Juan, site of an ancient post-house), by the Argentine Great Western Company; and Villa Mercedes to Buenos Aires by a company subsequently called the Buenos Aires and Pacific Company. Money supplies came from London, where the companies are domiciled.

The Villa Mercedes-Mendoza link of 356 kilometres was completed and opened in 1886; the pampas-crossing section between Villa Mercedes and Buenos Aires, 692 kilometres, in 1888. This was all plain sailing, but serious difficulties were encountered in the mountain sections. Work began on the Argentine side in 1887, and upon the Chilean in 1889; in the latter case the indefatigable Clark brothers gave not only devoted energy but their own funds, suspending operations in 1892, after 27 kilometres were built, when their capital was exhausted. A year later part of the Argentine Transandine section was opened to traffic, but the operation of completed lines on the east had the effect of diverting all traffic from Mendoza to Buenos Aires instead of promoting international commerce as had been contemplated.

[1] On the Chilean side a rack system is employed for 23 kilometres; the maximum grade is 8 per cent. On the Argentine Transandine the rack system is employed for 14 kilometres, with grades nowhere reaching more than 6½ per cent.

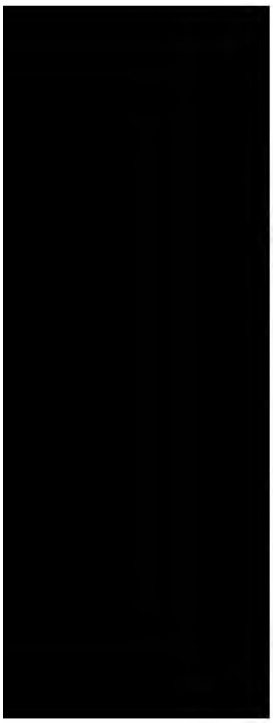
904 a new firm, the Transandine Construction
any, London domiciled and financed, took over
ilean section from the Clark brothers and their
rs, and finally joined the Argentine Transandine
frontier station of Las Cuevas in 1910.

old cart and mule road crossing the Cumbre rose
ltitude of 14,500 feet, and was, during the period
v-storms, usually due between April and October,
all but the hardiest travellers. To obviate this
the builders of the Transandine drove a tunnel
h the head of the Andean barrier, at an altitude
21 feet above sea level; the tunnel "de la Cum-
raverses a length of more than 3000 metres, the
ansandine lines meeting within its length, at an
e of 10,515 feet. With greater capital to spend,
hilean Transandine constructors would have
the tunnel through the mountains at a level
3000 feet lower to avoid the storms raging about
gher regions, and ultimately this work will prob-
e performed; but it entails construction of a tun-

On the Chilean Transandine Railway.

Laguna del Portillo: near the Transandine line.

Santa Rosa de Los Andes: Chilean Terminus of the Transandine Railway.



: Panama journey. With the operation of the nama Canal the route between New York or Halifax l Valparaiso was shortened so much that it is a saving time for a traveller wishing to reach Buenos Aires m a North American point on the eastern side to ırney via the Canal and the Transandine. Buenos es has also been brought into closer touch with the ient and Australasia, while Chilean towns are in ick communication with the markets of Argentina, uguay and Brazil.

Brisker traffic in both passengers and merchandise l be developed when unity in administration is in rking order. But this has been long delayed, owing the troubles connected with construction days. In)4 the Argentine Transandine, observing with mis- ing the remote prospect of completion of the Chilean k, formed an agreement by which the Argentine eat Western operated the section open to traffic, this angement being renewed in 1901 and 1905. In 1907, er some skirmishing and the commencement of a npetitive line to Mendoza, the Buenos Aires and cific Company obtained control of the Argentine eat Western, and at the same time of the agreement ıtrolling the Argentine Transandine, which line it ırantees from losses threatened by blocking of ffic through snow. Thus for many years the Buenos es and Pacific held the reins of all rail operations ween the capital of the Argentine and the frontier of ile, and was frequently charged with so arranging ight prices as to send all Mendoza traffic eastwards, ile discouraging commercial interchange between ilean markets and the prosperous Mendoza vicinity. e Chilean Transandine constantly pressed for a ision of management, proposing that the Argentine ansandine should be separated from the Buenos

and Pacific and united with the Chilean mountain-
ing link, so that a single administration should
te the line between Los Andes and Mendoza, the
of the lease held by the Buenos Aires & Pacific
allowing of cancellation at twelve months' notice.
lean and Argentine public opinion agreed upon
atter, the help of the two Governments was en-
special meetings held under the auspices of the
Committee on Railway Transport of the Pan-
ican Conference held in Buenos Aires in 1916, an
national Commission appointed to arbitrate upon
rates between the two countries, in 1917, and a
proposition approved in early 1918 between the
natic representatives of Argentina and Chile in
on, acting in consultation with the directorates
e two Transandine companies. Chile agreed in
st of 1918, and, in amicable agreement, the Gov-
nt of Argentina, in December, 1919, accepted
oposal in principle; arrangements were made by

to all inhabited parts of her territory. It is true that with a few exceptions, of which Talcahuano is the most notable, Chilean ports are little more than open roadsteads, exposed both to the south-westerly gales and to the dreaded "northers"; but modern engineering is doing much to solve the problem of safe havens where visiting vessels may anchor in safety. The same difficulty applies to almost the whole of the South American West Coast, and for centuries sailing vessels feared the region; during Spanish colonial times it was so common a thing for a ship to spend from six to twelve months on the passage between Callao and South Chile that when Captain Juan Fernández, running out south-west for a thousand miles, and afterwards turning almost due east for Chilean ports, managed to avoid the cruel coastal gales and made the passage in thirty days, he was haled before the Inquisition as a wizard. The Inquisitors, however, after careful examination of the captain's papers, set him free, applauding his sagacity. From that day the group of islands named to commemorate the navigator's skill became the beacon for vessels sailing to Valparaiso from the North, although ships returning to Peru still hugged the coast.

It is not uncommon for sailing vessels to be wrecked off the difficult southerly coast, with its innumerable indentations and furious storms, but the worst year of the present century was 1911, when 37 steamers as well as, by a strange coincidence, an exactly equal number of sailing ships, were cast away off Chile. That was a year of exceptional storms, but out of 32 years between 1887 and 1919, only seven passed without a record of wrecks; it is to the credit of the excellent surveying and charting work of the Hydrographic Department of the Chilean Navy that the path of the

tor has been rendered plainer, while the Chilean nment has in hand a series of plans for the bet- otection of ports — lacking only the financial of war against wind and tide.

Chile's fifty-four ports of major and minor im- ce, perhaps thirty are visited by international ng. But of these only about fifteen display brisk erce. Arica, visited by 400 foreign ships annu- nd over 300 Chilean vessels, connects directly Bolivia; Pisagua, Junin, Caleta Buena, Iquique, illa, Mejillones and its younger sister Antofa- Coloso and Taltal, are nitrate ports, bustling nitrate markets prosper and almost idle during ost depressed period of 1921. The copper ports añaral, Caldera and Carrizal Bajo have suffered than Coquimbo, with fruit and other farm ex- o add to her diminished list of minerals. Val- , chief port of Chile, receives about one thou- ational and three hundred foreign ships yearly,

Coquimbo, the "Capital of North Chile."
Ancud, the Port of Chiloé Island.
Zapallar, a beautiful Chilean Watering Place.

inadequately equipped for the increasing work required. A special Government Commission, lately considering the question of more sea gateways, has decided that forty or so of the points along the Chilean coast should be improved for the reception of international shipping.

The Commission's recommendations necessitate the expenditure of at least six million pounds sterling, or let us say the whole of the taxes upon nitrate exports during one prosperous year. The sum will in all probability be raised, according to need, year by year, by means of exterior loans.

According to the projects, Valparaiso will be allotted a further million and a half pounds; Valdivia, Lebu, Talcahuano and Constitución, about one million each; Puerto Montt, a preliminary £150,000; Tomé (at the north of Concepción Bay) and Pichilemu, £40,000 each; with smaller sums for Iquique and Puerto Saavedra (Imperial Bajo).

Valparaiso port works have been since 1912 in the hands of a British engineering firm, and have given a good deal of trouble, storms more than once undoing part of the construction work; in the early months of 1922 there were completed two quays totalling 840 metres in length, a breakwater of 288 metres, and a coal wharf 200 metres long by 30 metres wide; work upon the mooring jetty, the extension of the old Fiscal Mole (dating from 1883, and the only means for transferring passengers and cargo until the new quays were constructed), the Prat Quay, warehouses and railway is also well advanced, in spite of long delays caused by the European War. There is plenty of water — in fact, too much for facile construction of jetties or break-waters, the bottom shelving rapidly from 39 feet at the mooring jetty, and offering, less than 200 feet

shore, nothing but mud as foundation. In con-
nce, the outer section of the breakwater cost £560
inear foot to build. Since 1906 Valparaiso has
ed from no serious earthquake, but slight shocks
ot infrequent and must be taken into considera-
in the case of construction in the sea as well as
the land. Rise and fall of the tide at Valparaiso
not exceed three feet.

e Nitrate Ports have earned more money than
other points of outflow for Chilean products, but
adequate modern havens for shipping are not to
eated in a day or even in a decade; and the same
ulties of the open roadstead and prevailing winds
delayed the completion of adequate facilities even
nat busy commercial stronghold, Antofagasta.
prehensive plans are, however, in course of devel-
nt, and work has only been delayed by the de-
ion of 1921.

rt improvements at Talcahuano are being carried

Bay through a sandy bank into the river, safe from all storms. From this point the stream is to be dredged for 20 miles up to the town of Carahue, where a branch railway connects with Temuco and the Longitudinal system. Another important dredging work is projected along the stream of the Valdivia from Corral port. This haven of old foundation, nestling under its cliffs, has been for centuries of necessity the stopping-place for vessels with cargo and passengers for Valdivia City, twelve miles inland, all traffic being transshipped up-river by small steamers, barges, etc. By the new plans a channel will be deepened to permit the passage of ocean-going steamers to the beautifully placed riverine city, whence rail connection opens the most fertile agricultural country, immense forestal zones and a large coal-mining region.

At pretty Constitución, where the dangerous bar is so much dreaded that its condition is always signalled to vessels before they venture to approach, plans include the dredging of a channel and construction of breakwaters to prevent silting-up.

Puerto Montt, at the end of the Longitudinal, and lying within the Gulf of Reloncaví, is a recent creation whose equipment as a port receiving international vessels is still only on paper; this Llanquihue region, with its lumber and sheep industries, is fast developing, and will invite a great deal of tourist traffic when its transport facilities are equal to its glorious scenery. Port construction problems are chiefly due to the 25-foot rise and fall of the tide. At Punta Arenas, another new port of remarkably rapid and vigorous growth, vessels are still obliged to lie out in the Strait while cargo and passengers are transferred by lighters and small boats, but the steady prosperity of this zone as well as its position as a port of call for international

ners render imperative the creation of modern facilities.

Rivers and Lakes

ile has one hundred and twenty rivers, but can no more than five hundred miles as navigable. navigability is again limited to small vessels only, ich another five hundred miles of lake waterways lso open; motor boats and canoes are able to rse another four hundred or so of rivers, but these equently broken by cascades and falls.

pre-Spanish times the lakes and rivers of Chile ng towards the Andes undoubtedly served as nels for Indian traffic; the Rio Blanco, Juncal and cagua led towards the mountains into what is to- Argentine territory from the populous Central re- of Chile, while the lower passes were crossed to outh by way of many river valleys and by such as Llanquihue and Todos los Santos, a short only intervening between the latter beautiful

Taltal, a Nitrate Port of North Chile.

Puerto Corral, the Port of Valdivia, South Chile.

ness, and it has only been within the last twenty years that serious studies have been made with a view to restraining, preserving and freeing the torrential streams characteristic of the short, steep slope of Chile. All Chilean rivers are snow-fed, and are extraordinarily and violently augmented when the Andean snows melt; the northern floods are more uncontrolled than those of the south, tearing down from greater heights through open country where nothing but, eventually, heat and sand offer a check. Many disappear in the desert while still far away from the sea. The southerly rivers, flowing from lesser heights and passing through long forestal areas, are more constant in volume. It is only below Lebu, in 38 degrees of south latitude, that any Chilean river becomes even nominally "navigable," with the sole exception of a dozen miles of the Rapel.

Nevertheless, the longest Chilean river is in the north, flowing across Chile's widest province, Antofagasta; this is the Loa, fertilising oases in the desert and sheltering little groups of people today just as it offered a livelihood to indigenous folk in pre-Spanish days. The Loa, sometimes called the Calama, is three hundred miles long, but for half the year is not more than a thread at the bottom of a wide gully. Its nearest northerly rival is the Copiapó, about 170 miles, watering fruitful valleys like the capricious but equally invaluable streams the Huasco, Elqui, Hurtado, Limari and Petorca. A succession of rivers in the Central Region are untamed floods in the rainy season — the Aconcagua, Juncal, Blanco, Volcán, Colorado, Maipo, and Mapocho, Cachapoal and Rapel — none more than 125 miles long. Three or four of these rivers will be harnessed in the near future to yield hydroelectric force. Below to the southward, the Mata-

the Maule of ancient fame, the Itata and the ite Bio-Bio are all outside the navigable list, and tter is distinguished by its exceptional length of 200 miles as well as its beauty.

t among navigable rivers as one goes from north uth is the fine Imperial, with a watershed of five thousand square miles, and a length of one ed miles; it has a magnificent and constant flow, ly fifteen miles are navigable. The Toltén owns vigable miles; the Valdivia, 125 for small boats out 25 for larger craft; the Bueno is in a differ- tegory, for, with a length of not much more than ndred miles, it has about 50 miles of navigable el. The Bueno, in fact, is the outflow of two lakes, Ranco and Maihue, and discharges 600 metres of water per second, a flow second to among Chilean rivers.

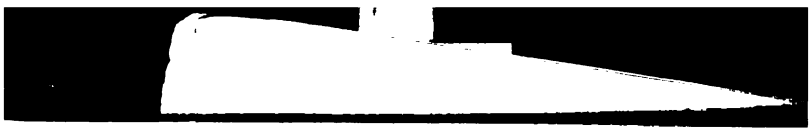
farther southward, the Maullín has thirty navi- miles; the Palena about twenty; the Aysen, no

regular traffic upon Riñihue and Ranco. The former lake is reached by rail to Los Lagos station, horses taking travellers thence to the edge of Riñihue, about 25 miles; a wild but glorious stretch of typical Chilean woodland, clothing the sides of a lovely valley, lies between Riñihue and Ranco, with its brilliant turquoise blue waters, and abrupt sides covered with ferns, foxgloves, fuchsias and a close growth of trees of bright green foliage. Small steamers cross the lake to Llifen, where there are famous curative sulphur baths.

From Puerto Montt southward is a long series of fiords, islands, indentations and inland channels whose intricacy and extent are unequalled even by the famous fiords of Norway. For natural beauty the Norwegian complex cannot compare with that of Chile, for no woodland exists in Europe that rivals the pathless, luxuriant, flower-hung forests of Chiloé Island, the Andean spurs of Western Patagonia, the broken archipelago of Chonos, and the noble mountains of the Strait of Magellan. Rich ferns and flowering shrubs, wild bamboo and pines and beeches, reach to the water's edge Through the thousand miles of this complicated chain of inlets and islands between Puerto Montt and Punta Arenas runs an almost continuous channel, continuation of the long depression which creates the deep fold of the great Chilean central valley. Steamers seeking sheltered waters from the Strait of Magellan northward need not emerge into the open Pacific, but turn north by Smyth Channel and run inside the barrier formed by Hanover and Wellington Islands. But at the Gulf of Peñas vessels are forced out to the turbulent ocean, a thin strip of land barring the way to the calmer waters of the Moraleda Canal. Chilean engineers have long projected a cut through this Ofqui bar, joining the mainland to Taitao penin-

for it is only 7000 feet wide; no doubt this nec-
help to navigation will be given before long.
this opening effected, small vessels will be able
s from Puerto Montt to Punta Arenas and Tierra
uego by a sheltered waterway, passing great for-
majestic glaciers, frowning snow-capped moun-
stark headlands and a thousand inlets and
s, a long panorama of splendid beauty.

sels of all nations visit Chile, Australasia and
sending regular lines to compete with the ship-
of Europe, North America and Chile's sister
American republics, the total tonnage of visit-
ips amounting on an average to over twelve mil-
of which less than five hundred thousand tons
ent sailing vessels. Sea transport on the Chilean
has undergone an immense transformation since
ane brought the first steamer ever seen upon the
Coast, the little *Rising Star*, in 1818. Traffic



of a new law restricting coastwise trade to ships registered in Chile.

The largest and most important of Chilean steamship companies is the Compañia Sud Americana de Vapores, Government-supported, with head-offices in Valparaiso, operating a fine and excellently-equipped fleet of ten vessels serving Chilean and Peruvian ports, and, since the War, extending its international service through the Panama Canal to New York and European ports. Two new vessels of 7000 tons each were added in 1922 to the company's fleet: the *Aconcagua* and her sister ship were built at Greenock, and bring the Sud Americana's first-class passenger service to a high standard.

Roads

Chilean highways, placed though they are in scenery so lovely that the traveller's eyes are directed to mountains and tall trees rather than to the morass at his feet, need the improvement projected by the Road Law of 1920, arranging for special taxes to be devoted to the construction and upkeep of first-class country roads.

Reasons for the long neglect of this means of transport include the fact that farmers and countryfolk in Chile commonly ride horseback — this is a land of good horsemen and well-trained animals — and the condition of the surface if not a matter of indifference is of less concern than if vehicles were more common. Next, country produce has been in the past, and in many regions is yet, brought from the farms by heavy ox-carts, pulled by teams for whose convenience, again, a smooth surface is not considered a necessity. The third reason, which perhaps should have foremost place, is the nature of a great part of the Chilean soil.

CHILE: TODAY AND TOMORROW

soon as one enters the Central Valley of Chile, cognises a characteristic of the Pacific Coast, the and extremely fine soil, as light as face-powder, its slightly pungent scent. Much of this soil is nic ash, with a mixture of vegetable detritus; it raordinarily fertile, with almost every virtue in ves of the farmer, and undoubtedly this genial roduces the best food in the world. But it is dif- to reduce fine dust to the consistency of a road a surface hard enough to resist the disintegrating s of an eight-months' drought, followed by tre- ous and violent rains.

ween the double row of blackberry hedges, backed es of poplars, a typical road of Central Chile is a rough of shifting, floating dust in the dry season, swamp after the rains set in. Once upon a day y the writer with a party of friends tried to reach ndes from Santiago in a motor-car: the Chilean feur and the car both did their excellent best, but

Antofagasta, with its hard-surfaced nitrate fields, owns about six hundred miles of first-class roads; a record equalled only by the big Territory of Magellanes in the far south, where the sheep-farmers of the newly developed estates have made roads across Western Patagonia. In each of these two regions the climate, although in the North almost unbrokenly dry and in the South almost unbrokenly humid, is equable, lacking the sharp and destructive changes of the Central region. It must be owned, however, that the proportion of roads to area in great southern territory is one mile in length to each fifty square miles of land.

Altogether, Chile is officially stated to have between six and seven thousand miles of highway in first-class condition, with Coquimbo, Atacama, Aconcagua, Santiago and Tarapacá following the two provinces named above in length of highways in good condition. The new law aims at putting another six thousand miles of road into the same category within the next few years, out of the total of all classes reaching a mileage of nearly twenty thousand.

CHAPTER XII

FINANCE

nversion Fund. — Currency. — Debts. — Public Revenues.

HEN the war in Europe broke out Chile was on point of establishing a Conversion Office upon similar to those followed by Argentina and Brazil. bject was fixation of the exchange value of paper ncy by the creation of strong gold reserves, and normal circumstances Chile's office would have its work in 1915. It has not been possible, up e end of 1922, to open the "Caja de Conversión," ugh funds are maintained on deposit with this

issued in conformity with the decree of January, 1914, for the purchase of vessels for the Chilean Navy and the construction of port works, but has been gradually replaced until in 1919 the total Fund amounted to over 114,000,000 pesos, of which 67,000,000 were banked in Chile and the remainder in England. At the beginning of 1921 Chile possessed £2,300,000 on deposit in the Bank of England, or nearly 31,000,000 pesos of eighteen pence; and to the credit of the Conversion Fund in the Casa de Moneda in Santiago had bar gold, $400,000 United States gold money, £78,845 of English money, and other specie, amounting in all to nearly 84,000,000 of pesos.

The withdrawal of funds from the Conversion reserves for special purposes was not unprecedented. Three years after the inauguration of the Fund in 1899 (when it was hoped to begin conversion operations in ten years' time) 20,000,000 pesos were used for military expenditure, this sum being practically replaced in 1904 by proceeds of the sale of certain old cruisers.

Gallant efforts made to bring up the Fund to a point justifying the opening of the Conversion Office have been rendered abortive by the hard times of late 1920 continued throughout 1921, but the intention of Chile's financial advisers is maintained and appears only to await the accumulation of sufficient gold.

At the same time the fact that credit and not gold is the true basis of economic prosperity has been forcibly impressed upon South America since 1914. Countries possessing big reserves of gold have been observed to suffer from depreciation of their paper currency, and, what is worse than depreciation, from constant fluctuation in every economic breeze, despite all the efforts of experienced financial experts; and on the other hand

ries which were able to trade advantageously
g the war and thus to pile up immense stocks of
recious metal have been seen to experience a
alising paralysis of their markets — to be choked
heir own gold.

fact that those countries whose fiduciary issues
sunk to an apparently ruinous level are on that
account able to export their merchandise with
taking payments in comparatively valuable cur-
s and paying their way at home in depreciated
, is illuminated by the lesson of the territories
currency maintained at a high exchange rate by
acking, which are unable to find buyers of their
cts because no outsider can afford to pay the
erated rates of exchange. However, exporters
ot the only persons to be considered, and the
l uncertainty of commerce, together with the
l timidity of foreign capital when invited to
with persistently variable currencies, will un-

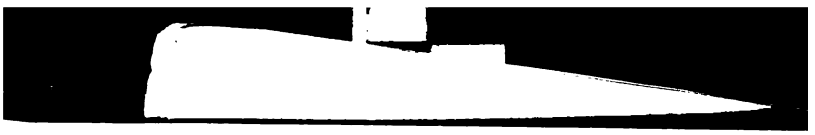
comparison with sterling has fluctuated from just over forty-six pence in 1872 to seven pence in the worst days of 1915 and a drop to nearly sixpence in the slump of 1921–2. For the last fifty years the exchange value has tended to decrease, due chiefly to repeated issues of the paper money which replaced the gold and silver coinage of the Spanish colonial régime, when a peso was worth (1800) the equivalent of four English shillings. The creation of paper money was, however, unavoidable in the circumstances, and so long as a country possesses a sufficient quantity of some recognised form of currency, the material of which it is composed is not a matter of local importance, although exchange values may be grievously affected.

All the gold minted into Chilean money has disappeared from circulation, the finely designed little coins being retained only as curios or mementos since 1875, when severe depreciation of silver values rendered gold higher priced as bullion than as currency. The gold peso is today no more than a financial term. Officially, gold coin has an existence, as the condor, of 20 pesos; the doblón, of 10; and the escudo, of 5, but the currency actually in use is paper, well printed, in denominations from one peso upwards, with silver coins of 1 peso, 20, 10 and 5 centavos, and nickel coins of 20, 10 and 5 centavos. From more than one country of the Americas, silver has disappeared entirely when the depreciation of paper has borne down the purchasing power of the peso or other unit to a point below the market price of the metal, but Chile has so far escaped this denudation in difficult times. At the beginning of the present century the value of the Chilean peso stood at 15 to 16 pence until 1906, when the tragic effects of the earthquake that temporarily destroyed Valparaiso reduced credit.

1907 and 1914 it fluctuated about ten pence,
to an average of eight pence during 1915,
pence in 1916 when demands for nitrate in-
about thirteen pence in 1917 and nearly
ce as the average in 1918; in June of 1918 the
d to an exchange value of over seventeen
dropped quickly when the Central Powers
Armistice. During 1919 the average re-
about eleven pence, rose to over fifteen
ng the early part of 1920, and subsequently
d the falls that disturbed the Chilean mar-
, when the peso touched an exchange value
six and seven pence.

or perhaps on account of, the wealth of
pper ores, no coins made of this metal are
use, although they make an appearance in
ords. The reason for this abstention is
opular prejudice against a commonly known
uring the sixteenth century an attempt was
troduce copper coinage, a large quantity of
was minted in Santiago, and the objection
santry were so strong that more than a
astres' worth of the coins were buried or
o the rivers in contempt.

s in most of the nitrate fields receive at least



inflation, is perennially short of change in industrial regions.

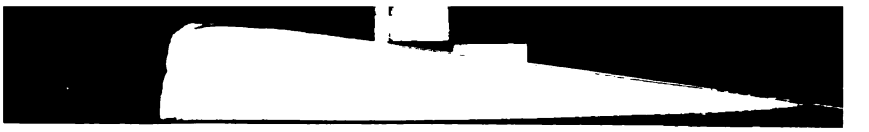
Chile has in circulation about 4,000,000 pesos in silver coinage, and a Government note issue of 150,000,000 pesos, which on the basis of eighteen pence to the gold peso is covered to the extent of 75 per cent by the Conversion Fund; at twelve pence, the issue is fully covered. But there is other paper outstanding — treasury "vales," to the amount issued to banks and nitrate producers, totalling at the beginning of 1921 about 107,000,000 pesos, as well as 45,000,000 pesos in round numbers, issued against the gold guarantee. The total paper currency of Chile is therefore over 300,000,000 pesos, or 75 pesos to each inhabitant, with one peso of silver and with a quantity of nickel: let us say, about four pounds sterling, or $20 U. S. currency.

No one is more acutely aware of the dangers of inflation than Chileans, a people with a marked aptitude for finance. That fine journalist and courageous editor, Carlos Silva Vildósola of the *Mercurio*, has repeatedly drawn public attention to important aspects of the monetary situation, and has declared that Chile is "desperately ill of the disease of paper money"; a comprehensive study of fiduciary issues has also been made by Dr. Guillermo Subercaseaux, a Chilean economic expert, and one of the planks of the Alessandri platform was a promise to proceed with the fixation of exchange, "so that we can know what we really possess, and how much we can buy tomorrow with the money we earned yesterday."

Debts

ile's public debt was augmented in early 1921 \$24,000,000 United States currency was bor-d in New York, but prior to this loan the exterior ations of the country had not been heavy in com-on with its vigorous economic growth; later in ear, another \$20,000,000 (U. S.) was borrowed in York, and in the first weeks of 1922 the financial ets of London readily took up a Chilean loan of 57,000.

e first Chilean loan was made in 1822, after Inde-ence, by the Supreme Director, Don Bernardo ggins, through his representative in London, Don nio de Yrisarri. One million pounds sterling was ned through the medium of Hullett Bros. & Co., oan bearing interest at six per cent; a Sinking of £20,000 the first year, and £10,000 in succeed-ears was arranged for, any bonds remaining un-



but were reduced to about £34,000,000 in 1913; by the middle of 1921, according to the Official Message of President Alessandri, this debt had been brought down to about £28,000,000. The detailed history of Chilé's financial years since 1884 shows new loans, although as a rule of extremely moderate sums, occurring almost annually with the exception of a gap of eight years between 1896 and 1905, when not a penny was borrowed; nor was any fresh exterior debt incurred between 1912 and 1921. Most of the Chilean loans bore the modest interest of 4½ per cent.

In 1919 Chile began to negotiate for a new loan, to cover the needs of the State railways; there was a deficit of 40,000,000 pesos upon the operation of these lines in 1918, and in addition to another large deficit, expected in 1919, money was wanted for supplies and equipment for new work upon the lines, and especially for construction on the southern part of the "Red Central." The law passed by the National Congress authorising the loan also permitted the State railroads to raise tariffs by 20 per cent. Eventually, in February, 1921, the first New York loan was made through the agency of the Guaranty Trust for $24,000,000 United States currency; it bears interest at 8 per cent, and was issued at 99, a considerable proportion of the sum raised being spent by arrangement in the United States.

Public Revenues

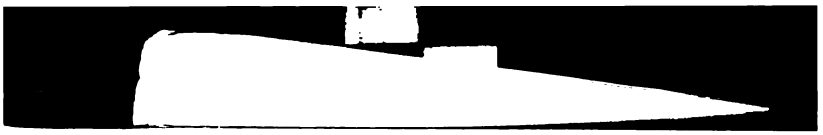
Public revenues in Chile are large in proportion to the population, the great bulk of the national income coming from import and export dues and, since the acquisition of Antofagasta and Tarapacá, especially from the nitrate industry, in the form of exportation taxes, and leases of deposits, as well as less directly

from the entry of immense quantities of machinery, stores and personnel. In considering the statistics of Chilean revenues, it must be remembered that taxes are partly paid in "paper" and partly in "gold"; no gold coin, nor, necessarily, gold-backed paper actually passes, but what happens is that a proportion of the dues are paid in paper of a fluctuating exchange value, while the remainder is paid at the fixed exchange rate of eighteen pence to the peso.

Since the Chilean Government's excellent statistical departments figure out the totals reduced all together in pesos of eighteen pence, however, or in pounds sterling, the student of Chilean economics is considerably aided; but in surveying past years one is confronted with the fact that between 1885 and 1897 the peso was reckoned as being worth thirty-eight pence. For the reason, therefore, that comparisons with external cur-

In 1891 the public revenues of Chile for the first time reached — and exceeded by 5,000,000 pesos — the hundred million mark. In 1895 receipts reached 127,000,000 pesos, with 93,000,000 expenditure, in round numbers; next year, with an income of nearly 163,000,000 pesos, there was a surplus of 47,000,000, an agreeable record exceeded in 1901 when, with revenues of nearly 186,000,000, the balance left in public coffers amounted to more than 50,000,000 pesos. Both receipts and surplus rose in the next year, and in 1903 official statistics showed the remarkable figures of 210,000,000 income, with 91,000,000 on the right side of the ledger after expenses were paid. A slight drop was experienced in 1904, but in 1905 receipts went up to nearly 257,000,000 pesos, rising to 373,000,000 in 1907 and 458,000,000 in 1908. In 1911 a tremendous jump in public income was made, to 796,000,000 pesos: in this year the surplus rose to nearly 457,000,000 pesos. In the three following years there was a falling off from this satisfactory record, but the balance remaining in the treasury was always substantial, and until Chile was adversely affected by the international upheavals following the European War her treasury was in a condition that many wealthier nations might envy. But in 1919 the Government was obliged to record a deficit of over 60,000,000 paper, and in 1920 estimated a deficit of 89,000,000 paper pesos. The result of these unprecedented difficulties is to bring about a somewhat hasty series of plans for changing the tax system, with a view to obtaining larger revenues, and while heavy dues were placed upon the importation of luxuries, remodelling of the inheritance and land laws, and of the imposts upon industry and commerce was outlined. The fall of nitrate prices, and paralysation of the market, emphasised the fact that this industry is taxed to

proportionate degree, while many other forms of ity are exempt. In 1915, for example, out of 134,-00 paper pesos received in the customs houses, 0,000 were paid for nitrate exports and 1,000,000 s by-product iodine, while of the gold receipts, nting to 30,000,000 pesos, 29,000,000 were paid he same output from the salitre fields.



CHAPTER XIII

CHILE'S NAVAL POSITION

Chile and the World War. — Strength of the Chilean Navy. — The Army.

THE geographical situation of Chile, giving her a strip of coast twenty-eight hundred miles long, renders her acutely interested in the future of the Pacific. Command of the Strait of Magellan and the possession of an excellent fleet are guarantees of her ability to protect this interest.

In the wide affairs of this ocean, destined apparently to be the scene for the next trials of political if not of physical strength, the nations of the South American west coast have as yet had no voice, for while it is accepted as a matter of course that certain European countries, the United States and Canada, as well as Japan, Australia and New Zealand, should insist upon having their views heard, neither Mexico nor the countries of Central and South America are generally regarded as parties to the questions involved. With the development of national consciousness and the creation of well-equipped navies, a number of these countries will figure as coadjutors of increasing importance, and in the forefront of them Chile will, I am convinced, be found, ready and able to assume her share in the working out of a common problem.

Chile was physically affected by the great war. Not only was Easter Island used as a naval base by the German fleet, but her ports were used as refuges or supply

e ships of several belligerents. German
n Chilean ports, many German sailors
during the war period in Chile, and al-
sition was a passive one it cannot be
he deep interest with which she watched
Pacific and the Magellanic archipelagos
e than passive. So far as the Allies were
r cause would have been little, if at all,
entry of Chile into the conflict against
wers; it was Chile herself, with a possible
upon some of the steamers of the Kosmos
rned during the war in her ports, who
y a belated entry, and it is to the credit
lously correct neutrality that she re-
stinguished Chilean writer, Dr. Enrique
shed in 1919 a comprehensive study upon
ty of Chile: the grounds that prompted
." I think that no one who understood
or the feeling that Chile sincerely ex-
d this explanation, however lucid and
ng as it does the absence of any such
ught Brazil, with her list of torpedoe
Allies' side, and setting forth the equit
ns when faced by the acts of the belliger
itorial waters. There were, for example
hilean neutrality by various units of the

Two years after the close of the great war Chile became, as a direct result of her old and cordial relations with the British navy, in an unprecedentedly strong naval condition.

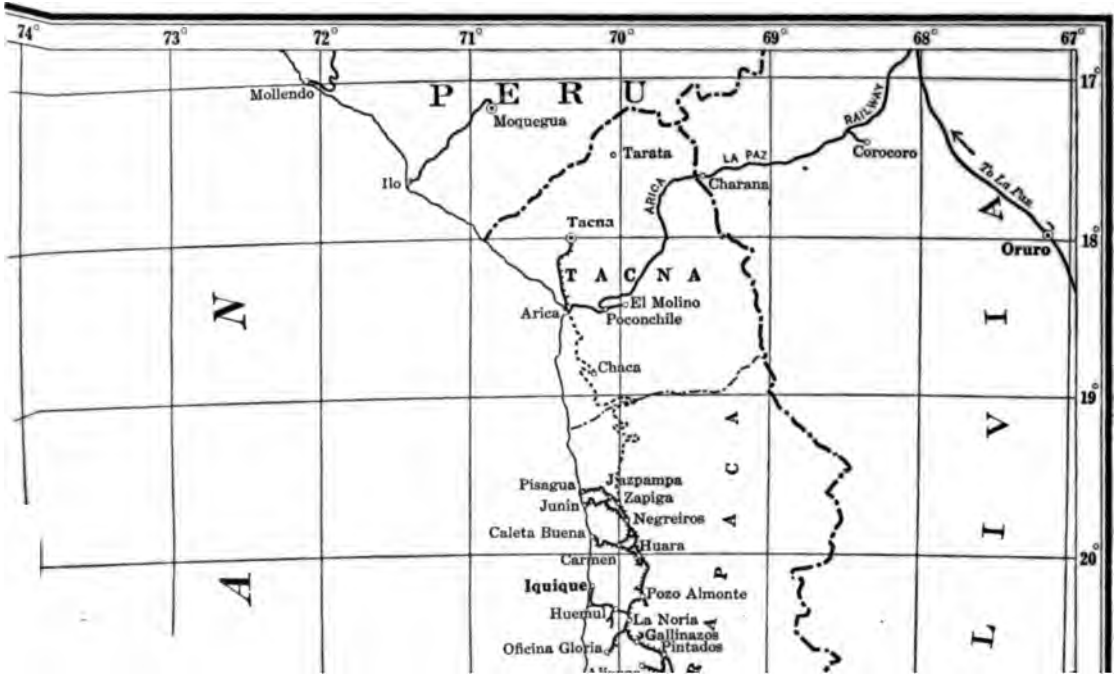
Strength of the Chilean Navy

In August, 1914, two dreadnoughts were building at Elswick for the Chilean Government, the *Almirante Latorre* and the *Almirante Cochrane*, the price of each vessel being £2,800,000. A number of fast destroyers, also constructed by the Armstrong Whitworth Company, formed part of the Chilean naval developments, two of these, the *Lynch* and the *Condell*, being already in Pacific waters when hostilities broke out. The dreadnought *Almirante Latorre* was completed speedily, taken over for British Government service, and did good work under the name of H.M.S. *Canada* during the four and a half years of the conflict; in April, 1920, she was repurchased by the Chilean Government, which obtained for the comparatively modest sum of £1,400,000 not only this fine vessel but three more destroyers, sister ships of the *Lynch* (the *Williams Rebolledo*, *Simpson* and *Uribe*) and a naval tug. About the same time the British Government also presented to Chile six submarines and fifty aircraft, a gift associated with British appreciation of the sympathetic attitude of Chile at the time when the exigencies of war brought about detention of the vessels under construction.

The dreadnought *Latorre* displaces 28,000 tons, has a length of 125 feet, beam of 92 feet, and draws 28 feet of water. She carries 30 guns of 14 inches, 3 inches and 4 inches, as well as a number of machine-guns and four torpedo tubes. Her speed is 23 knots, and her full crew 1075 men. She burns coal and has a bunker capacity

200 tons. The five new destroyers each displace tons, are 320 feet long, are armed with six 4-inch , and have a speed of over 31 knots; bunker city, 507 tons of coal; crew, 176. These vessels laid down in accord with the plans created for the ernisation of the Chilean fleet in 1910, and their rporation into the navy of Chile renders this coun- the possessor of an excellent fighting squadron, pped in consonance with the experiences of the t war.

he possession of good modern vessels of war is one g; adequate operation of them is quite another, as than one young nation has discovered to her cost. hile, however, a traditional naval feeling has ex- for a century, aided by the inheritance of a con- able proportion of blood from British seamen, and work of a group of British naval instructors who mainly responsible for efficient development in the ce — as the German military instructors moulded


74°
73°
72°
71°
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68°
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PERU
BOLIVIA
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Mollendo
Moquegua
Ilo
Tarata
Tacna
TACNA
Arica
El Molino
Poconchile
Chaca
Pisagua
Junin
Caleta Buena
Carmen
Iquique
Huenul
Oficina Gloria
Jazpampa
Zapiga
Negreiros
Huara
Pozo Almonte
La Noria
Gallinazos
Pintados
ARICA
LA PAZ
RAILWAY
Charana
Corocoro
To La Paz
Oruro

0 men each; three cruisers of another type, the *anco*, *Chacabuco* and *Zenteno*, were built in the same rds following the acquisition in 1890 of the French-lt *Errazuriz*. In addition to these large vessels, Chile two torpedo cruisers built by Laird in 1890; the *né* and *Talcahuano;* five modern destroyers (flotilla ders) constructed between 1912 and 1914; seven older troyers (the *Thompson*, *O'Brien*, *Jarpa Gamero*, *Orella*, *uelme* and *Serrano*, carrying 88 men each) built at rd's; five torpedo-boats (*Contreras*, *Hyatt*, *Mutilla*, *drigue* and *Videla*) built in 1896 in the Yarrow ds, carrying 36 men each, war strength; the six v submarines referred to above, built by the Elec-Boat Company, Ltd., in 1915, needing a total war ngth of 108 men; one training ship, the *General quedano*, built at Elswick in 1898, a schooner with tiliary engines, carrying 253 men; three transports, *Rancagua*, *Maipo* and *Angamos*, with a complement 86 men each; one sailing ship, the *Lautaro*, built Glasgow in 1896; ten patrol boats, of which six er vessels were built on the Seine between 1890 and 95, while four boats acquired in 1919 were built in singfors. There is also still upon the list an old nclad, the ex-*Cochrane*, built at Elswick in 1875, rying a crew of 132 men.

Chile reckons the peace strength of her navy afloat l ashore at 8377 men, while the naval expenses ount to about 14,000,000 Chilean pesos; in war es the personnel would be increased by 1020 men, ts being brought up to 15,200,000 pesos. Naval erves are calculated as 35 per cent over the war ting, as regards personnel, while in the event of tilities aid of great practical value exists in the amers of the Government-controlled Compañia l-Americana, transformable into auxiliary cruisers.

HILE: TODAY AND TOMORROW

ain number of men are annually recruited
rily for one year's service, but as these con-
ly amount to three or four hundred, the naval
chiefly made up of volunteers who enlist for
en years; many conscripts after serving their
ar elect to remain under this system. In a
country such as Chile seamanship is popular,
navy never has difficulty in filling the lists
ng men who are developed rapidly into smart
disciplined sailors. The naval schools of Chile
nate and well equipped: in Valparaiso is a
olishment training 200 cadets, of whom 2
annually passed as junior naval officers; the
ademy, part of the same building, trains twelve
k officers. Also in Valparaiso is the Naviga-
ol, passing about six officers yearly, and the
Mechanics training 120 pupils is supplying
to 40 petty officers. Cadets of the Nava
eive a second-class midshipman's certificate

merchant marine, as well as for the navy; the corvette *Abtao* is used as a training school for boys, and here 150 lads are prepared yearly, with the obligation of serving five years in the navy. The *Baquedano* corvette receives boys from the *Abtao* and midshipmen qualified from the Valparaiso school for a year's voyage of instruction before they assume duty in the regular service.

Chile has four naval bases, at Arica, Valparaiso, Talcahuano, and Punta Arenas; the latter has none but mobile defences, since the Treaty made with Argentina at the time when boundary limits were settled stipulates that the Strait of Magellan shall not be fortified, a decision which will probably be modified in view of Chile's undoubted right to protect the property and lives of her nationals in the rapidly developing district of Punta Arenas and a number of inlets and islands. No belligerent or other vessel would be prevented by Chilean fortifications from passing from Pacific to Atlantic waters or *vice-versa*, since the Cape Horn route offers open waters.

The Hydrographic Bureau attached to the Chilean navy has been responsible since its inception in 1874 for constant exploration and surveying work directed to all parts of the coast, but particularly to the intricate waterways of the south. Over 150 maps and charts have been published by this Bureau, constantly in communication with the equivalent services in the most advanced countries.

The three first-named naval bases possess fixed land defences, as well as movable and submarine defences; at the chief station, Talcahuano, are two dry docks, one of 45,000 tons and the older of 15,000 tons capacity, as well as a floating dock of 1200 tons. Arrangements are also made with private dockowners in Mejillones (Antofagasta) and Valparaiso for repairs when needed,

hipyards of Punta Arenas, Chiloé, Valdivia, and
titución also offering useful help both as regards
ruction and repair work. In point of numerical
gth, the Chilean navy is second only to that of
l, while as a matter of fighting record this service
been conspicuously successful on the three occa-
when Chile has been at war during the last hun-
years. Her history is firmly bound to her mari-
tradition, and her political influence in the future
undoubtedly be considerably affected by her vig-
s command of the sea.

e army of Chile is a citizen army; its strength,
by year, is under 20,000 men, of whom about half
newly conscripted; but every healthy man over
ty-one years old is due to receive a year's training,
s as a matter of fact very rapidly made into good
ng material. I have seen extemely smart soldiers
d out in six months' time in the training camps

CHAPTER XIV

IMMIGRATION

The First Immigrants of the South. — Araucanian Lands.

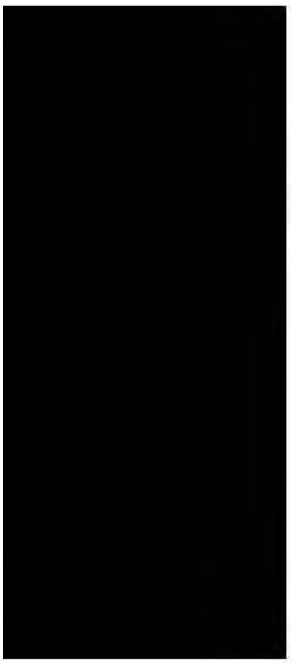
ORGANISED immigration efforts began in Chile just before the middle of the nineteenth century, during the régime of President Bulnes; they ceased within a few years, and recommenced between 1881 and the end of the century: thenceforth the flow has been regulated by a series of laws of strict tendencies. For a number of years the largest contributor of blood to Chile has been Spain, but there are no colonies such as those created by the Brazilian system, newcomers of today usually finding industrial employment in cities, or the coal, nitrate and copper camps. For several years before 1914, when immigration practically ceased, the average entry was less than 2000, of whom at least 75 per cent were Spaniards. Chile's first batch of regular immigrants arrived in 1850, following the efforts of an energetic agent in Europe. There were 70 German men, 10 women and 5 children in the party, who sailed round the Horn, had a passage of 120 days and were landed at Corral. Both Valdivia and Corral were economically dead at this period; it would perhaps be more exact to say that they had never lived. The sea-port and the riverine city had been maintained as frontier posts against pirates on the ocean and Indians on land during the Spanish colonial days; a small mixed population had grown up as a result of Valdivia's utilisation as a dumping-ground for convicts from all the West Coast. Evildoers were shipped here as a convenient means of obliteration, and a number never returned north. For

CHILE: TODAY AND TOMORROW

y years following independence from Spain Val- languished, the forts decaying and the soldiers erent. There was no connection with the rest of except by sea, for the land of the unsubdued canians lay, a broad belt of forbidden land, below opulous towns of the Central region.

rral had twenty-eight houses when the Germans d; Valdivia's plaza was a rubbish-heap, the s unmade, the one-story houses of mud had un- l windows. To add to the troubles of the agent had brought the settlers, governmental negotia- for land on which to plant the colony had not been leted. Vicente Perez Rosales, the agent, tells in emoirs that as soon as immigration to the south d in view as a fact, tracts of land that had been and valueless suddenly acquired owners and a Enterprising citizens went forth into the woods, some ancient Indian who was willing for a con- tion to swear that such and such a tract was his

Valdivia, a Flourishing New Southern City.
Punta Arenas, the Southernmost City in the World.
Puerto Varas, facing Calbuco Volcano, Lake Llanquihue.



country was unclaimed, started to explore what was still virgin country to the white man. He lived on honey and wild nuts, struggled through dense woodland to the edge of Lake Llanquihue, chose his ground, and then gave his chief Indian scout, the celebrated Pichi-Juan, thirty pesos to burn clearings through the heart of the forest. It was this Indian who brought the first fifty yoke of oxen to the borders of the Gulf of Reloncaví, driving them through the jungle from Osorno and opening the first track.

Pichi-Juan took three months to burn a belt five leagues wide, and fifteen leagues long, through the Osorno Valley, leaving isolated woods to serve for house-material and fuel. Puerto Montt, at Melipillo, was founded in February, 1853, among blackened stumps, and the new colony, also of Germans, had two bad winters when the crops rotted in the ground; but by 1861 had progressed so well that the town was made the head of the province.

One hundred and five more settlers had come in 1852; another batch four years later. By 1858 Puerto Montt was self-supporting, with cultivated fields, flour mills, and was exporting brandy and honey, planks, tanned leather and wheat flour. Between the foundation of the settlement and 1864, when immigration of German familes ceased, 1363 people had entered. Henceforth the opened territory received continual additions of energetic people from many parts of the world, Chileans themselves went south, and today there is no better developed and managed part of Chile.

Araucanian Lands

A new spurt of immigration occurred after 1881, when the Mapoche Indians' obstinately held claim to

eignty over the broad belt of lands known as
cania was finally destroyed by the republican
s of Chile. With the frontier barrier overthrown,
ng lands lay open, and the Government made a
bid for European settlers.

ents were sent out to Switzerland, France, Eng-
and Germany, and prospective colonists were
d 40 hectares of land (about 100 acres) in
regions; in others, twice this amount; part of
assage-money was given, a yoke of oxen, seeds,
ments, materials for house-construction, and a
advance towards the expenses of the first year.
ast these advances was set off a mortgage upon
roperty, to be repaid in three years.

the year 1884 a French-Swiss colony had been
lished at Quechereguas, and another at Traiguen,
n miles distant. In the same region, at Victoria,
Germans and Swiss; French settlements had been
at Quina, Angol and San Bernardo, while in the
co region were more Swiss colonies, as also at

well-being of the Swiss immigrants, their physical security, and delay in obtaining land titles, and, although the Chilean authorities did their best to ameliorate conditions, a check to the invitation extended was felt for a time. However, the young towns began to prosper, the Chilean Government planned and began more railways, and before the end of the century the whole territory had been tentatively opened. Cultivated fields spread over the face of the old Indian reserve, joining eventually with the Valdivia and Llanquihue lands settled thirty years previously.

Two small specialised groups of immigrants are to be seen in the south in addition to the German and Swiss wave. After the last Boer War, a number of farmers came from South Africa with their families, and settled upon the Island of Chiloé. Here the fair-haired children of the Boer folk thrive, the farms are neat and well kept, and the properties, many of them extending to the sea's edge, appear to flourish. The other transplantation is that of a group of Canary Islanders, a hardy folk who have acquired land on the beautiful Budi Lagoon, on the coast of Cautín Province. In the southern provinces below the Bio-Bio, however, the long existence of the Spanish outposts next door to Indian populations had its effect upon both groups. The Indians learned quickly to adopt the European habit of keeping domestic animals — they are said to have owned 50,000 sheep by 1567 — and to till the soil; the Spaniards or their descendants of mixed blood learned to live contentedly in houses of mud bricks, to eat Indian food and to prepare it in the Indian manner. The southern tribes had no domestic cooking vessels: holes in the soil, beaten hard and lined with stones, were heated with wood fires, and the food, thickly wrapped in leaves, was placed in a red-hot

and covered down with branches: all kinds of ogether — shell-fish, birds, green vegetables, po- — were put in, the whole coming out as an ap- ng, steaming mass. This *curanto* was adopted e mestizos, and still survives in certain localities avourite dish, exactly as the old Peruvian *locro*, otato stew of Inca days, is still an indispensable f the menu of upland West Coast towns today.

ther coffee nor tea were to be had in the south in days; the former in fact had not yet come into l European use, while the import of tea was for- n under the Spanish colonial régime; the mestizos to a drink made of ground and parched maize with water, or chicha, or the infusion of yerba imported overland from Paraguay. The latter n still survives in country regions, while the colo- from Central Europe of last century filled their for coffee with a decoction of dried, burnt and d figs. The use of the woollen poncho, a garment

formed the mode of life after the arrival of colonists, the advent of the railway, and the commencement of steamship services. When flowers began to be seen in the window-spaces of southern houses in place of iron grilles, as Vicente Perez Rosales says, it was the signal of a new standard.

Formal colonisation in Chile is today little needed, but there is a constant informal inflow of white foreigners of good standing who in a considerable proportion marry the charming Chilean women and are added to the permanent population. No great wide spaces are undeveloped, and the natural increase of a healthy land will suffice for industrial needs.

CHAPTER XV

CHILEAN LITERATURE

itions of Authorship. — Historians. — Politicians, gineers and Novelists. — The Society Novel. — Re- tic School. — Poets.

NDITIONS of authorship in Chile are not altogether raging to the writer of books. The journalist fair chance, for in this as in almost every Latin- ican country where prosperity is at least recurrent, is a large output of daily and weekly papers; if ublishers are unable to offer any great financial d to talent, they are keenly sympathetic, and

in any particular quarter for, perhaps, political reasons, and the bookstores always seem proud to display the groups of "autores chilenos" upon their shelves. But, in the case of a serious, non-fiction book, the author rarely prints more than 200 copies, and thinks himself lucky if he sells 50. A novelist who has already achieved something of a name probably prints 500 copies and may reasonably expect to sell half that number.

The lack of professional publishers all over Spanish America appears to be due chiefly to mental dependence upon other countries and particularly upon France. By far the greater proportion of books offered for sale in any Spanish-American town is French, or translations into Spanish of French books, the list ranging from such classics as the works of Voltaire, Rousseau and Nordau to Zola, Dumas, Anatole France, Guy de Maupassant and the more modern writers of fiction. Conan Doyle's detective tales still sell freely in Latin America, as do the works of Scott, Kipling, Rider Haggard, Hardy, and a few other "standard" English authors, in Spanish translations some of which are not so much incredibly bad as extraordinary misfits. The oddest translation of this kind that I have ever picked up from a Latin-American bookstall was of Sudermann's "Mill." I found it on a forlorn newstand in interior Nicaragua, and kept it as a shining example of the difficulty of translating into a Latin from a Teutonic tongue. Neither the speech of the German peasants, the routine of the mill, the ideas or scenery "went" in Spanish, and it is at least partly because a French story translates so happily that Latin America is flooded with French literature. All these translations are made in Europe, and are generally published in Madrid; as a result, Latin America reads, in the main, what Spain reads.

der these circumstances it is admirable that the er stream of Chilean literature persists. Exam- the output, one concludes there are today two classes of producers: first, the authors who are artists, pricked by the age-old necessity for ng, and secondly the propagandists who for the of public service, or political reasons, wish to pre- their views. In the delicate mid-shades one finds enuine historian; the personage whose aim is to ve a literary reputation; and the sound economic ist.

regards history Chile has been well served by her sons. The bright spirit of Benjamin Vicuña enna, descendant of one of the distinguished Irish rs in Chile, informs his "History of Chile," while ent work was also done by Barros Arana in his mental record. It would be difficult to exag- e the value of another series of productions by Toribio Medina. This delver into archives has

of this class of work coming from the ranks of journalists as well as from those of the professional politician; a glance at a pile of such pamphlets leads inevitably to the conclusion that only a small proportion can possibly be disposed of by sales. But among the political writers whose essays are frequently of wider interest is the author of "The Neutrality of Chile," Enrique Rocuant.

The distinguished engineer, Santiago Marín Vicuña, is one of the best Chilean writers upon economic subjects, his range covering railways, mines, irrigation, ports, canals, etc. The press of the excellent *Mercurio* of Santiago reprints in book form many of these and kindred articles of national concern, performing sound work in bringing the acute problems of the country before the public, never more needed than in republics where continuity of domestic as well as foreign policies is often lacking.

In the realm of fiction it cannot be said that Chile is rich. She has never yet produced a great novel. But there is consolation in the fact that neither have most of her sister states, the greatest wealth of literature, particularly of the genuinely national school, flowering in Portuguese and not Spanish America; the novels, belles lettres, historical studies and poetry of Brazil have been and are poured forth in quantities that are torrential compared with the thin streams from many other Latin-American countries. The fact is curious when one considers the present strength of Spanish literature compared with that of Portugal. It would be unfair to Spanish America if one did not seek an explanation of her attenuated literary production on other grounds than those of mental capacity, and unfair to Chile if her output were not considered in relation to that of all other parts of Spanish America.

CHILE: TODAY AND TOMORROW

ish America during the major part of the nine-
h century underwent constant political upheavals
ting in the preoccupation of the most brilliant men
presidential disputes and, not infrequently, the
of the most active citizens from a share in their
try's advancement and ideas. Behind the former
ish colonies lay, also, a traditional acceptance of
alities and inhibitions that were far from encour-
to intellectual development.

evertheless, here and there rose bright founts of
ry production during last century. It is not sur-
ng that the best of these originated in the regions
e the viceregal courts had been established for
hundred years, where the Royal Audiences and
ersities had been set up and a nucleus of well-
ated people settled. The best-known novel of
America (aside from Taunay's famous "Inno-
a"), the sentimental "Maria" of Jorge Isaacs, is
case in point, however, for the author, writing in

maceda fading from public interest, the military-patriotic story has yielded to two chief classes, the society novel and pictures of the life of Chilean peasants and workmen.

The former are not infrequently of an insufferable length and insipidity; the scene is nearly always confined to Santiago, and the author devotes half his pages to minute descriptions of the heroine's costumes, while the rest of the space is taken up with endless discussions about *amor*. For instance, in the highly reputed "Martin Rivas" of the late Alberto Blest Gana, one of the most polished and admired Chilean novelists, it is impossible to discover why Edelmira, Leonor, Adelaide, or Matilde should "love" or dislike Martin, Agustin, Rafael, Emilio, or Clemente; not only is all the conversation of the young people based upon the question of whether someone does or does not cherish a heart-affair, but all the fathers, mothers, uncles and brothers are represented as perpetually running about suggesting that their sons, daughters, sisters, etc., should enter into matrimony. The high principles of the virtuous Martin do not prevent him from suborning a soldier and police official in order to escape from jail, but his worst crime in the eyes of the reader is likely to be his interminable letters of loquacious sentimentality, which unfortunately set as well as followed a fashion. "Los Transplantados," displaying the Chilean who elects to live out of Chile, is generally placed second in popularity. This novel and "Martin Rivas" were imitated in a trickling stream of politico-social-amatory novels, of which perhaps the best-known late successor is Luis Orrego Luco's "Al Traves de la Tempestad," in two thick volumes whose pages, devoted as they are to unctuous accounts of the heroine's feathers and embroidered dresses, are relieved by

inal strokes of interesting political portraiture of
years ago.

far the most interesting and vivid fiction of today
t of the realistic school, dealing with the Chilean
man, bandit, etc. The methods of Blasco Ibañez
e much of this output, and it frequently happens
in order to achieve an appearance of strength the
r descends to a sordid brutality that is apt to
t its own ends. We don't believe it. This mur-
g, lying, callous drunkard is not a typical Chileno,
anyone who knows Chileans, and we begin to
ct the novelist of cultivating misery in the first
because he thinks it makes his work strong and
dly because he really has not studied the Chilean
ing-class very thoroughly, and trusts that his
rs are equally unaware. An example of this
is "El Roto," by Joaquin Edwards, published
e middle of 1920. "El Roto" followed the work
veral other writers dealing with the life of the
rinos (countryfolk), miners, *huasos* (cowboys),

young Chilean writers that included his distinguished brother, the poet Samuel Lillo. Don Baldomero is not a fertile producer, but his work is of steady quality. Another portrayer of virtuous *campesinos* is Federico Gana, whose "Días de Campo" is a pleasant, smoothly written series of scenes. In quite another manner are the stories of Mariano Latorre, whose most striking volumes are "Cuentos del Maule" and "Cuna de Cóndores." Latorre's background in the latter tales is the Chilean cordillera, a region plainly well known to him; he has a gift for incisive description, and if his characters are frequently insensible, melancholy and animal, they are at least rarely sentimental. Don Pedro Cruz, a well-known Chilean critic, has criticised Latorre for playing to the gallery with his sententious insistence upon the characteristics of the Chilean race as displayed by his rather morbid peasantry, and, speaking in general of the school to which Latorre belongs, declares: "We are tired of the idiocies of Peiro, the brutalities of Goyo, the sensuality of Florinda, the cunning of Ermelinda, although all this is presented to us with a mixture of dawns, sunsets, trees, brooks and fragrant breezes," and roundly charges the authors with lack of imagination and inadequate study of their own environment; the gross peasantry shown in these stories is not, he says, genuinely Chilean, as it pretends to be: "Character consists in a mode of thinking and feeling, and these writers seek the national character in precisely those individuals who think and feel the least."

Among the minor writers of fiction are Augusto Thompson, Fernando Santiván, Diego Dublé Urrutia, Egidio Poblete, Rafael Maluenda and Francisco Zapata Lillo, most of them writers of short stories and delicate sketches rather than of profound studies. A tendency towards decision of style and condensation of expression

CHILE: TODAY AND TOMORROW

ndoubtedly made itself felt during the last decade, he scores of facile pens in Chile promise the devel- nt of the national novel.

ongst the most interesting recent work is the out- f a group of Chilean women writers. The charming ra Virgen" of Señora Echeverria y Larrain ("Iris") ibing the southern lakes and woods of Chile, is a o of literature, while the work of two younger rs, Laura Jorquera ("Aura") and Elvira Santa ("Roxane") is sincere and of remarkable promise. ormer writer's "Tierras Rojas," a tale of life in the copper plains of Antofagasta, is a genuine picture er "En Busca de un Ideal" a pleasant love story. a Santa Cruz has, I think, done nothing better than Flor Silvestre," with its presentation of life in hilean countryside.

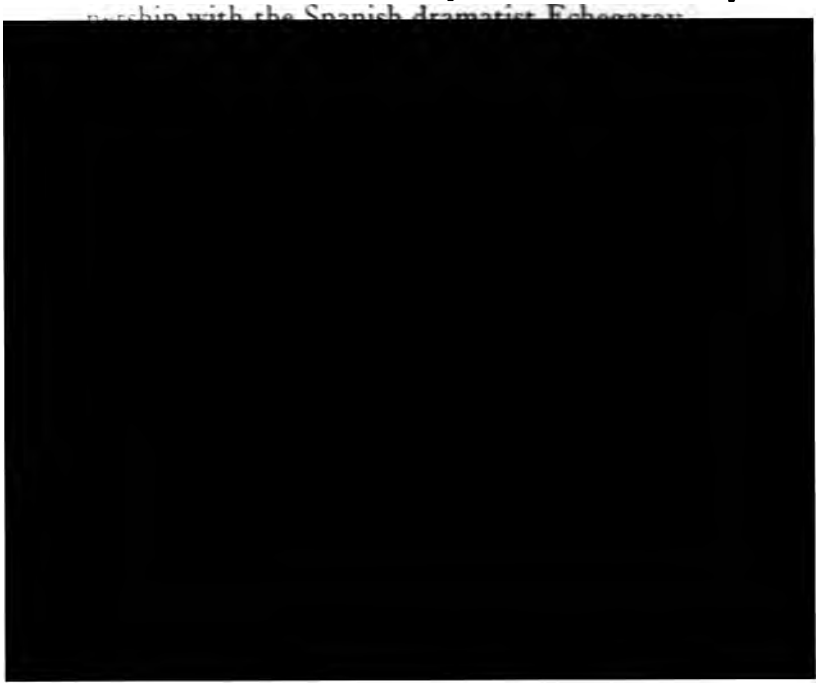
ama has received a number of Chilean contribu- , although it is but rarely that the visitor to Chile he opportunity of seeing a Chilean play. Acevedo

There has been for half a century a considerable group of young poets in Chile, many of whom turn in later life to politics, journalism or another profession; the residuum of mature poets is small. But this is not because Chile is an unkindly host to the poet: on the contrary, she is a genial foster mother. The world does not forget that the greatest of Latin-American writers of noble verse, Rubén Darío, although a Nicaraguan-born, found here his first literary encouragement, and that the electrifying "Azul" was published in 1888 in Santiago. Darío was at the time a weigher in the Custom house at Valparaiso, and Armando Donoso says, in his Anthology of Contemporary Chilean Poets, that he was no doubt a very poor weigher. At least, however, he was immediately recognised as a great poet, and it was Chilean appreciation that set his feet upon the triumphal path that he trod until his death. As kindly was Chilean nurture of the genius of another exile, the Venezuelan poet Andres Bello.

Following Darío's shining wake, a cluster of Chilean verse-makers began to publish in the early 90's: the beginning of the new century showed a growing list as the work of young Chileans. Included in these early volumes is the "Ritmos" of Pedro Antonio González; "Versos y Poemas," by Gustave Valledor Sánchez; "Esmaltines," Francisco Contreras; "Campo Lirico," Antonio Borquez Solar; "Brumas," Miguel Recuant; "Del Mar á la Montana," Diego Dublé Urrutia; and "Matices," by Manuel Magallanes Moure, who has since greatly added to his early laurels. Recently a selection of his poems, "Floreligio," was published by J. Garcia Monje in Costa Rica, that stronghold of Latin-American literature. Magallanes Moure is an excellent painter as well as a poet of the front rank in Chile.

Striking a less contemplative and minor note than Moure, the distinguished Pro-Rector of Santiago University, Samuel Lillo, is one of the most admired poets. His "Canciones de Arauco" has a good deal in common with the verse of Brazilian "Indianism," and the "Canto Lirico," "Chile Heroico," "La Escolta de la Bandera" and the poem to Vasco Nuñez de Balboa, strike a patriotic note. No poems, perhaps, are more widely known in Chile than those of the singer Carlos Pezoa Veliz, dead in his promising youth; and other well-loved verse is that of Victor Domingo Silva.

Again in the realm of poesy the Chilean woman has a high place. The brilliant lady who hides her identity under the pseudonym of Gabriela Mistral is not only a poet but an authority upon literature: a few years ago she was awarded the Nobel prize for literature in partnership with the Spanish dramatist Echegaray.



CHAPTER XVI

NATIVE RACES OF CHILE

Inca Control. — Racial Divisions. — The Southern Tribes. — Araucanians. — Race Mixture. — Archæology.

BEFORE the coming of the Spaniards to Chile, an important line of division already lay between the native folk who accepted the domination of the Inca and those who successfully resisted his rule. The physical sign of that division was the Maule River.

But both north and south of the Maule the various tribes differed widely in blood, in speech and habits and in capacity for the adoption of alien culture. Divergence of a marked character must have existed for a long time between the primitive, fish-eating coast-dwellers and the people living in the great longitudinal valley, who, although they were in all probability originally hunters, had taken to the cultivation of such food staples as maize and potatoes. The coast dwellers were not all of the same race, although necessity induced somewhat similar living habits: T. A. Joyce shows that upon the strip between Arica and the Atacama desert were a colony of the Uros, whose real home was on the Desaguadero River leading south from Lake Titicaca, but who were planted on the Pacific littoral in accordance with the Inca system of transferring tribes. South of these groups were the wood and skin huts of another colony brought from

ia, the *mitimaes* of the Charca tribe, who buried dead in a contracted position. South of Tarapacá groups known collectively as Changos, living the simple life but practising extended burial. The ical, industrious system of the Incas could do with such folk except, probably, to levy a tribute h, and chief attention was turned to the fertile ry of the central valley. Here agricultural life s to have been forced upon certain regions through ty of game, for although guanacos, birds and a mall edible animals are found all the way from imbo to Cape Horn, such creatures as the pudu he huemul (small and larger deer) are found only estal belts. South America has never possessed reat quantity of large game animals, and Chile in ular has a surprisingly short list of indigenous upeds, although she has always been well stocked both land and sea birds.

day the "Indian" has practically disappeared

have been definitely changed, but in the main the folk of the Magellanic regions have been left in undisputed possession. The natural conditions under which they exist are not conducive to cultural development. The daily struggle for food absorbs all effort, and it is only when an outside civilisation armed with tools and machinery and modern economic knowledge has imposed its will that the effects of the inclement climate have been conquered. Despite missionary effort, the southerly native people, among the most primitive and most miserable tribes in the world, sharing the common fate of their happier kin of the pleasant lands to the north, have almost disappeared. Today the traveller traversing by local steamer the wonderful Smyth's Channel and nearby inlets and fjords may see, as the earliest travellers saw, the open canoe of the "Indians" with a wood fire burning continually upon a tiny hearth of clay, paddled through the chilly waterways by folk whose dark skins are practically unprotected from the wind and rain. The Fuegians meet any passing vessel to beg for clothes and food as they begged from the *Beagle*, but contact with newcomers has taught them nothing but a new list of small demands. In the developing life of Chile they seem to have no place.

To discover the true racial differences between the native inhabitants of Chile before the Spanish conquest is a task requiring more evidence than lies as yet before us. It is rendered more difficult by the absence of temples or permanent dwellings and by the comparatively small witness yielded by graves. Only in the north, in the dry belt, are cemeteries offering a considerable bulk of remains; here are such sites as Calama and Pucara, near Chiu-Chiu, where Inca influence is plain although the residents had certainly attained to no more than a modest cultural status. The pottery found in the ceme-

of Arica and the Antofagasta sites is rough and ; the weaving coarse. The houses were mere ngles of cemented rubble where, as at Pucara, urvive in the rainless country. These are, how- eyond ancient Chile. Nothing so advanced as this f settled communities is found south of Copiapó, ekers must fain rely upon the evidence of shell- and arrowheads, plus the records of early visitors ch help as is afforded by the life of indigenous rviving today.

names of tribes as recorded or in use are not The cloud of these appellations confuses the er until he realises that Araucana is a Spanish tive of the Quechua "Auca" or rebel; that he means simply "People of the North" as he means "People of the South"; Puelche, "Peo- he East," and Moluche, "of the West," while the Mapoche or Mapuche indifferently exchanged for nian today is a local term indicating inhabitants tain territory. Joyce considers that the evidence

found agricultural groups where older habits had prevailed. In the Andean foothills were the Puelches, closely allied to tribes of the Argentine plains, who had crossed the lower mountain passes between Villarica and Corcovado.

Far south, three racial divisions are admitted. Two of these are commonly known as Fuegians, and these scant tribes, Alakalufs of the southwest and Yahgans dwelling in the most southerly part of Tierra del Fuego, are a much more primitive folk than the few and diminishing Onas, a taller, round-headed race allied to the big Patagonians, and inheriting from their kin a fair degree of hunting skill. A number of the Onas have taken kindly to a shepherd's life since the creation of scientific Fuegian farms, but the Yahgans remain as they have always been known to history, a fish-eating, practically amphibious race, unreconciled to civilisation. The long-headed Alakalufs of the Chonos Archipelago have been forced, whatever their origin, into a mode of life much like that of the Yahgans, depending chiefly upon the sea for livelihood, using arrows and harpoons for killing fish, constructing canoes and showing skill as watermen.

Very finely worked arrowheads have been and are still being made by these southerly folk: Chilean specimens are among the best weapons of the kind found in the Americas. But neither the Onas nor Fuegians have ever constructed pottery, or know anything of the loom; shell-fish, seal-meat and fungus, forming their chief food, is frequently eaten raw. Alakaluf homes are huts of sticks, covered with skins, and carried by canoe from place to place. They have no chiefs, dwell in family groups, and we know nothing of their gods. They have as a whole resisted efforts to Christianise them.

CHILE: TODAY AND TOMORROW

Araucanians

mong the great body of Araucanian speakers dwell-
n Central Chile at the time of the Spanish conquest
re definite culture existed. Religious beliefs were
ably genuinely Chilean, since they are quite dis-
from the ideas found on the other side of the
s. The supreme Deity Pillan was a sky-god with
welling in the volcanos, and was propitiated by that
l-wide institution the medicine man, here called a
hí. Faith still survives, but so completely has
saying been relegated to women that a case has
known of a male Araucanian dressing as a woman
keeping up an elaborate life-long farce in order to
the berth. "Cures" of the sick by fumigation and
us drinks, and yearly ceremonies under the sacred
o (a kind of cinnamon) tree, called forth the major
ols of the Araucanian cult, but there were neither
les nor images of deities

method of cooking food in stone-lined holes in the ground is a native custom that remained in use among both "Indians" and Creoles in the more remote districts until recent times. There seems no doubt that the game called by the Spanish "chueca," played with a ball struck with curved sticks, is genuinely Chilean; it bears a strong resemblance to hockey. The bolas with which the Chilean *huaso* (cowboy) is so efficient was not known on the West of the Andes until after the Spanish conquest. But with the speedy adoption of the horse and rapid increase of cattle this implement from the Patagonian pampas became widely used. Within thirty years after the entry of Pedro de Valdivia into Chile the horse had spread throughout the inhabited part of Chile, and mounted Araucanians, hardy and expert, were giving battle to the cavalry of the Spaniard.

The Araucanian fought to retain his independence for over three hundred years. It was a contest in which he was doomed to fail in the long run, but he received from his enemies unstinted appreciation of his courage. The famous poem "La Araucana" written by Ercilla, a soldier in Valdivia's army, embodies a Spanish concept of chivalry rather than that of the Mapuche; his noble Indian is a mediæval Spanish knight, and the verses frequently quoted as proof of Araucanian virtues display chiefly the convention of generous sentimentality infusing the European literature of the sixteenth century. But undoubtedly the Araucanian possessed qualities that all the world agrees to admire: he defended his own, and showed tenacity and ability in that defence. From a series of tribes living loosely in family groups, obeying no overlord in times of peace, the native folk evolved a strong fighting confederation. The Toquis, or wartime leaders,

rted by their Ulmen or district chiefs, developed
ne skill in warfare, and turned the whole of the
living south of the Maule into a mobile fighting
unity. The task was rendered easier by the old
dic habits of a large part of the population.

e hostile relations between the earliest Spaniards
he Araucanians became crystallised with succeed-
ears, a feeling constantly renewed by women-
ng and house-burning raids upon the Spanish col-
followed or preceded by ruthless attacks upon
ndian camps. The repeated treaties and parlia-
s arranged by the Spanish authorities with the
n leaders during later colonial times were little
than symbols of optimism.

far as Spain was concerned, good intentions to-
s the original owners of the Americas were fre-
ly pricked to action by the priesthood, consistent
ates of the indigenous folk. When Charles V,
d by Bartolomé de las Casas, published in the

were repeated by successive monarchs, and notably by Philip III, at the instance of that famous apostle of the West Coast, Father Luis de Valdivia. It cannot be said that, with regard to the Araucanians, this backing was either badly needed at the time or requited with gratitude; but it was followed by missionary efforts aiming at Christianisation of these wild and stubborn people. The Father Nicolas Mascardi, working in South Chile about 1670, "merited the crown of martyrdom that he received"; nevertheless the good Philippe de la Laguna took up the task, converting "Puelches and Poyas" in the mainland region opposite Chiloé, but making, apparently, little impression of permanence. The *intransigeance* of the southerners saved them for a time, for the more amenable Picunche and simple Changos, accepting the foreign yoke, rapidly diminished — the survivors losing caste with such finality that Ocampo, writing of West Coast conditions in 1610, declared that the Indians were generally downtrodden by the Negroes imported to supplement them as workers, "with ill-treatment both of word and deed, so that the Indians called the Negroes their lords, and the Negroes called the Indians dogs." It should be said that Ocampo's comment applied more to Peru than to Chile, where neither climate nor rich mines warranted the introduction of any large number of African slaves.

Today the Araucanian who resisted Spanish control is not in better case than the docile native of the more northerly part of the West Coast. Their definite overthrow as an independent people dates from 1882, when Chilean troops seasoned by the campaign with Bolivia and Peru marched across "la Frontera" and put an end forever to Araucania as a native stronghold in the middle of republican Chile. By this time Valdivia and

uihue had been colonised, and Araucania stood,
against north and south, in the way of free
unication and development. A land reservation
en allotted in the province of Cautín, its limits
ing about half a mile outside the town of Te-
Here dwell some 40,000 to 50,000 Mapuches.
najority are nominally Christianised, and in ad-
to the state schools, there are a couple of well-
ritish mission establishments near Quepe, where
g and handcrafts are taught. The younger folk
airly readily to instruction, but on the whole the
s prefer to withdraw themselves from contact
ll foreigners, to live in the native *rucas*, huts of
nd thatch, to prepare food in the ancient man-
nd to work only when a little money is needed to
rovisions. The women are adepts at the loom,
ng beautiful ponchos or mantos, and boldly pat-
and tinted rugs and saddle-cloths. Now and
one meets in the streets of Temuco a group of

Araucanian Indian, Spinning.
Note the solid wooden wheel of the country cart.

Araucanian Mother and Child.
The hide-and-wood cradle is slung upon the woman's back when she goes outside the hut.

Racial purity amongst these survivors is not to be expected. There had been a considerable mixture of blood between North, South, and the transandine groups before the Spanish entry, brought about not only by wars and migrations, but by the custom prevailing among the indigenous folk of Central Chile of seeking wives outside the tribe. During the colonial period numbers of white women were systematically seized and held by the Indians, the resulting admixture of blood accounting for the comparatively blond strain seen in some of the Araucanian families.

Correspondingly, there was a certain absorption of native blood into the Spanish towns and settlements, Indian girls and children having passed into the possession of the Europeans from time to time: but racial traits have in both cases yielded a great deal to environment, and the mixed-blood youth of the Spanish sphere of influence is not remarkable for sympathy with the dwindling remnants of the Araucanian tribes. The child of the soil appears to be doomed here for very much the same reasons as the Red Indian is doomed in the states of the North American Union: he is irreconcilable and sullenly proud; has been conquered by slow pressure plus the spread of alcoholism and disease; and in spite of honestly-meant legislation on the part of the present rulers of the country, is progressively stripped of his remaining property. During a session of the National Congress in Santiago in early 1921, the Deputy for Temuco, Dr. Artemio Gutierrez, made a strong protest against the "constant victimisation" of the Indians by grasping exploiters. He attacked the municipal authorities for failing to defend the Araucanians, declaring that spoliation, even the robbing of the native huts, was permitted, and complained that although the State Government ex-

the Indian from taxes the municipalities do not. Indians are not even masters of the two, four, ten hectares they operate, for they are only in l through the grace of the State," he declared, g that many of these folk cross to the Argentine ape their home troubles. Conditions of the kind almost unavoidable in a country rapidly filling h a new population, against which the old reso- sets its face; nothing perhaps is more typical of ttitude than an incident occurring at the cere- in connection with the opening of the railway emuco town some years ago. Amongst the per- s of the vicinity invited to attend the entry of st train were the local Indian chiefs: they came, n entourage of followers, bedecked in feathers, ne ponchos, mounted upon fast horses, and were in a long double row, facing the line from either The assembly waited, fidgeted, talked; but the anians sat motionless on motionless steeds, their

cas — the gradual extinction of an embryo civilization. Whatever beginnings the Chilean race had made towards the development of a social system, the evolution of a tongue and a cult, have been fruitless. In other continents the impression is given, very frequently, that the existing culture is built upon an older form, that it is the first seed of an ancient civilisation that has eventually flowered through whatever inner struggles and changes: in the Americas the developing civilisation has been introduced and superimposed, the young shoot of earliest native growth cut short and fatally withered.

The archaeology of Chile does not offer a field for study comparable with that of Mexico, Peru or Central America, with their splendid ruins of temples and burial grounds containing ceramic treasures, textiles and human remains. Because there is less that is spectacular, the Chilean area has been less adequately studied, and there is much work still to be done. Valuable researches have been made by the indefatigable José Toribio Medina, author of "Aborigines de Chile," published in 1888, and by R. E. Latcham, author of "Anthropologia Chilena," while the devoted energy of Dr. Aureliano Oyarzún in the field of physical anthropology is of the highest interest. Dr. Oyarzún has published many ethnological monographs and directs an excellent ethnographical Museum at Moneda 602, Santiago. A second collection in Santiago, containing much Peruvian pottery obtained during the War of the Pacific, is housed by the State, while a third is in the University buildings, possessing many specimens from Easter Island. Concepción owns a small but well-kept archaeological museum, but the scarcity of purely Chilean specimens displays the gap in present knowledge.

CHAPTER XVII

EASTER ISLAND

Culture. — Fate of the Islanders. — The Statues. — The Bird Cult. — Wooden Carvings.

LE is the only South American country owning
y situated at a considerable distance from her
it was picked up, in fact, in 1888 as a kind of
child of Spain in whom nobody had much in-

Easter Island has little commercial importance;
never yielded precious metals, includes no fair
read lands inviting agricultural settlers, and has
dlands nor a single river. The sheep and cattle
on the island are the property of one company,

which should be most intimately connected with it. For instance, the Easter Islanders speak a language which is a branch of a Polynesian tongue; in certain aspects, the culture of the old people is clearly allied to that of Polynesia in general. But — here is the problem of the ethnologists — Easter Island possessed a written language: the early European visitors put it upon record that the learned men of the territory could read the script of the wooden tablets of which specimens still exist. But Polynesia never had a written language, and pre-Spanish South America, the nearest mainland, was equally ignorant; the nearest country to the east with any idea of such script was Central America, in the Maya culture-area, and the nearest to the west was Sumatra.

The striking and eloquent evidence of Easter Island is fast disappearing. Two hundred years ago, when it was first visited by Europeans, stone statues stood, with their tawny head-dresses, as a thick fringe upon the coast, and there were perhaps a couple of thousand natives, divided into tribes spread over the land, among whom were the small clan of "wise men" who chanted from the script of the wooden tablets.

Today the natives are reduced to a handful grouped at one end of the island, the learned men have all passed away, and not a single statue stands upright upon the platforms of the coastal memorials. A part of the sea-border where a series of highly interesting carved rocks stand is being undermined by the sea, and in a few years little will be left. Science is therefore deeply indebted to the splendid work of the Routledge Expedition of 1914–15 in chronicling the exact results of a thorough examination of the remains, as well as for the indefatigable research work throwing new light upon this strange and ancient culture.

lern historical knowledge of Easter Island is . It was discovered by the Dutch Admiral veen on Easter Day, 1722, when he was search- a small island seen previously by the English Davis. Roggeveen stayed here for a week, ed the cultivation of sugar, sweet potatoes, ba- and figs by the natives, and noted the thirty- igh stone statues that stood thickly upon the dge. Fifty years later came a Spanish expedi- nder Gonzalez, who took formal possession for ng of Spain and had a map made. A few years in 1774, Captain Cook sailed into the western taining his name, the expedition's botanist, For- eaving an account of the island; La Pérouse of y memory was here in 1778. These later visit- v little cultivation, thought the island poor, and, ing to Cook, the natives no longer venerated the s. When the British Admiralty sent the *Blos-* re in 1825 the figures near the shores were nearly

islanders were decimated by this disease and by phthisis, introduced, apparently, by the devoted French priests. This mission had converted all Easter Island to Christianity by the year 1868, and in the zeal of proselytisation brought about the destruction of quantities of the inscribed wooden tablets.

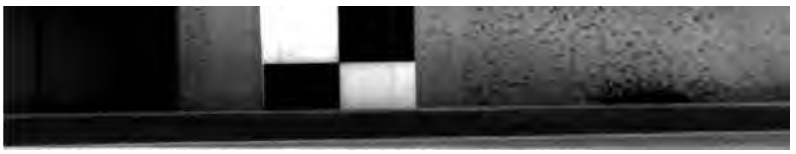
Commercial exploitation of the island by French traders operating from Tahiti led to the shipment of many natives to Tahitian plantations and the gathering of the 175 survivors into one small settlement at the western end of the island (at Mataveri) by the time that the *Topaze* called in 1868. This vessel took away the two stone statues that are, fortunately, now preserved in the British Museum. The American vessel *Mohican* came in 1886, the paymaster Thomson subsequently publishing an account of the conditions, and retailing a few folk-stories; a statue was excavated and taken to Washington. In 1888 the Government of Chile formally took possession of the island, retaining part of the western territory for the permanent use of the natives. The rest of the island is under the control of a British stock-raising company with headquarters in Valparaiso.

That is the brief record of Easter Island from the outside. But it has been increasingly plain since archaeology and ethnology took form as organised sciences some fifty years ago that the strange series of stone figures and wooden carvings emanating from Easter Island presented a magnificent puzzle. The work done with courage and ability by the Routledge expedition will perhaps only be adequately appreciated when the remains upon the island are no longer intelligible to the remaining natives. This time is rapidly approaching, and the resulting mystery adds to the picturesque quality of this lonely spot.

The Statues

majority of the figures bordering the sea were
rown during tribal feuds. These figures origi-
tood at the end of sloping platforms of stone slabs,
ahus, upon which the bodies of the dead were
r under which they were buried; and the figure
ach *ahu* was crowned with an enormous "hat,"
eight feet in diameter, of reddish volcanic stone
t from one spot, a quarry on a slope of the vol-
unapau.

these statues of the burial-places formed only
the island series. The Routledge Expedition
ied three roads, apparently connected with tribal
nies or rights, which were once bordered by
igures; while on the interior as well as the ex-
slopes of the volcano Rano Raraku, in the south-
re scores of these strange carvings. The slopes
aku are almost the sole sources of the "image



erection. Severely simple and quite primitive as the figures are, there is a fine dignity, a repose, about the lightly up-tilted faces that is impressive; the effect of the statues *en masse*, as they are still to be seen, many of them erect, with the faces looking out from the mountain on the slopes of Raraku, is remarkable, even through the deadening medium of a black and white photograph. Why the statues were carved in such number — there are 150 above the crater lake of Raraku — and why the work ceased, is one of Easter Island's problems. The unanimity of design, its peculiar conventions, and the skill and decision of the workmanship, suggest a "school"; and as the writers and readers were a special inner guild, so, apparently, were the image-makers. It is true that there seems to have been at one time an itch for carving, for in certain regions every piece of stone that projected from the ground has been carved as it lay, without any attempt to remove it: perhaps, a beneficent influence was created with each serene carved face. But it is certain that many of the statues were set up to mark boundaries, and were so well known that their special names still survive. The larger figure now under the portico of the British Museum, for instance, which comes from Orongo, is "Hoa-Haka-Nana-Ia," which may be rendered in English, "There is a friend who watches"; the inference certainly being that this statue stood on a boundary. The image-stone is a fairly soft volcanic rock, and the tools used, many of which have been found near the images in the quarries, were pieces of harder stone, roughly chipped, bearing a striking similarity to the tools found near Stonehenge, and used in dressing the monoliths. The natives had, of course, no metal. A people of extremely simple habits, they neither made any kind of pottery nor wove cloth,

beaten bark (*tapa*) for body-coverings. Food was
l in holes in the ground, lined with stones and
. Fresh water was and is obtained only from
ater lakes or other collections of rain. The peo-
m to have lived contentedly in the many caves
island, but also built huts of a uniform pattern:
pe long and very narrow, the hut had a floor of
edged with a little wall of slabs; from this
a series of twigs, bent and interlaced together
top, and covered thickly with leaves. Food con-
chiefly of the sweet potato, a kind of sugar-cane,
ananas; there was no animal upon the island
g meat except a small rodent, but the islanders
xpert fishermen, and also, in the season, caught
quantities of the sea-birds that visit the nearby
o breed.

The Bird Cult

and only members of the temporarily most powerful clan, or their friends, could take part in the contest. The competitors, men of substance, waited in special houses, but deputed servants to swim to the islet when the season was at hand; carrying food, these men lived in a big cave, whose carvings are still to be seen, until the curious scream of the birds heralded their coming. When the first egg was found, the deputy shouted the news to his employer (who shaved his head and painted it red), and swam ashore with the precious egg in a tiny basket tied to his forehead. The victor and his rejoicing party danced ceremonially, carrying the egg, all the way from the west to the eastern end of the island, where the bird-man went to a special house for a year, at Orohié, on Rano Raraku's slope, strict tabu being maintained for five months. Each old egg was as a rule given to the incoming bird-man, and by him buried on Raraku.

Mrs. Routledge says that apparently the last year in which the dominant clan went to Orongo to await the birds was in 1866 or 1867, although the competition for the first egg survived for some twelve years afterwards.

Legends of the Easter Islanders appear to point to their racial origin upon other Pacific islands, and migration in at least two separate periods, a tradition which is confirmed by the divergence of types found, and the number of shades, from dark brown to nearly white, of the skin of the different people. Stories of the wars between the "Long Ears" and the "Short Ears" suggest that the image-makers, always depicting elongated ear-lobes, differed in tribal attributes from their opponents. None of the native settlements upon Easter Island appear to be of very old establishment.

Wooden Carvings

curious and beautiful series of small objects is
l of the peculiar culture of Easter Island. The
s had, of course, no metal, and it must have been
stone or hardwood tools that quantities of small
n figures made in former days in Easter Island
carved. It is not known with certainty whether
erritory formerly included a larger number of
offering timber for this work and for the larger
s of which tradition speaks, or whether use was
of driftwood. Today there are no trees of the
y shown by the figures.

most striking of the old wooden objects repre-
human figures — rarely, those of women, and
commonly, of singularly emaciated men. Speci-
of the latter are beautifully finished, and the
shows "long ears" and faces with "imperials" or
beards, and marked aquiline features, quite dis-

Tuukoihu, one of the first immigrants to Easter Island from the western islands; but the art of wood carving still survives feebly, chiefly in the manufacture of objects for sale, as antiques, to unsuspecting visitors.

The natives today wear clothes, a habit which has probably tended to render them more liable to disease; they number about 250. Retaining their two-hundred-year-old reputation of being courageous and persistent thieves, they have however lost many of their ancient arts and are not addicted to regular work. But they are of a physically fine type, appear to possess a gift of wit, and, unless when instigated to anger by their equivalent for medicine men or women, are an amiable people. They formerly tattooed the body in definite conventional patterns; their religious cult was chiefly connected with respect to ancestral dead, and ideas of spirits, kindly or the reverse. A certain clan, the Miru, assumed possession of supernatural powers, and specially gifted men and women were given the usual homage of the medicine man. But religious ceremonies, as apart from the burial rites, initiation into the bird cult, and, later, ritual connected with the visits of European ships, do not appear to have existed.

Of weapons, quantities are found; black obsidian flakes, roughly chipped at edges, with a short stem bound to wooden handle, are typical.

Exterior communication with Easter Island depends upon the Chilean Government, sending an Admiralty vessel yearly, and upon the visits of a sailing ship sent to bring away the wool clip, product of the flock of the 12,000 sheep, by the commercial company of Valparaiso leasing the main part of the territory.

The Chilean vessel sent of recent years on the trip is the training ship *Baquedano*, a corvette fitted with auxiliary engines.

s of the British company's boat are rare, and the ntatives at Mataveri are cut off from the outside or long periods. During the early months of the e vessels of the German fleet appeared in Cook's the *Scharnhorst, Gneisenau, Leipzig, Nurnberg resden;* they used the island as a naval base for s, gave out the first news, considerably garbled, war, and went away, first to sink the *Good Hope onmouth* off Coronel and later to meet their fate Falklands. The *Prinz Eitel Friedrich* also entered cember 23, went out and captured a French , and sunk her inside the three-mile limit in Bay, after landing her crew and that of a British ship taken off Cape Horn.

CHAPTER XVIII

A NOTE UPON VITAL STATISTICS

TODAY Chile calculates her area at over 300,000 square miles, with a population not far exceeding four millions. There is plenty of room for at least twenty million people, although one must rule out from possible settlement certain areas of the rugged south, and of the arid north, where, however, scientific irrigation may bring unsuspected regions into the realm of cultivated and settled country.

The growth of population in Chile has not kept pace with that of some other of the South American nations, partly because definite efforts to invite immigration have long been discontinued. Numerical success has not always been accompanied by peaceful assimilation, and Chile, with no great untouched areas to fill, prefers to wait for the natural increase of her people. Since 1820, when the total Chilean inhabitants did not reach one million, the number has quadrupled, a few hundred thousand persons of foreign blood adding, during the century, to the stock; today the foreign-born residing in the country are calculated at 135,000, of whom 100,000 are men.

A brief examination of the population figures of Chile shows some illuminating details, and nothing is clearer than that the apparently rapid growth of certain regions is not due entirely or even chiefly to an influx from outside Chile, or to natural increase, but to a shifting of the workers from one point to another in response to industrial demand. Antofagasta city,

did not figure at all in the census of 1875
d 8000 people ten years later, and 70,000 in
This concentration is of course a result of
agnificent rise of the nitrate industry, and
a proportion of the employés are Bolivian
eruvian, most are drawn from more southerly
n districts. Valparaiso, always a prosperous
espite recurrent earthquakes, shows a progres-
se during the last half century from 70,000 to
) people, its lovely residential suburb, Viña del
ounting 35,000 more; Santiago also has made
in accord with her political, social and financial
the population numbering 425,000, as against
) in 1865 and 333,000 in 1907. Concepción is
r city showing legitimate and steady increases
oo people today as compared with 14,000 fifty
go. Iquique, another of the new nitrate towns,
out 50,000 people, appearing in statistics, like
gasta, only twenty-five years ago.

hundred inhabitants in 1865, has 25,000 people. Forty per cent of these are calculated to be foreigners, chiefly Scots, or Falkland Islanders of Scots blood, and Yugo-Slavs; the only other city showing so large a proportion of foreign-born residents is Tarapacá, while Antofagasta has 16 per cent of non-Chileans.

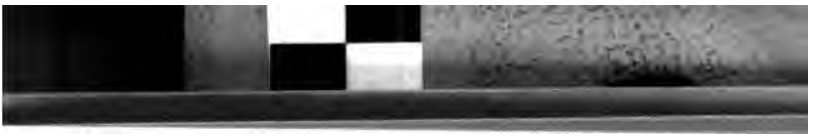
Vital statistics in Chile are carefully kept and promptly published; they do not always give satisfaction. A storm of protest was roused, for example, in the Santiaguino press, led by the outspoken and admirably edited *Mercurio*, when Santiago's figures for the first four months of 1920 were issued. Infant mortality was shown to be extremely high in that period, — 5237 deaths to 4777 births, — a fact which called for investigation by the health authorities, while stress was laid upon the listing of 2402 of the births as illegitimate. "If on the one hand our population does not increase in the normal proportion, while on the other the race is debilitated in the manner revealed by the figures, it is useless for us to claim proudly that we are a well-defined and homogeneous nationality," declared the *Mercurio*, and a cloud of articles appeared to account and to suggest remedies for the conditions shown by the official figures.

As regards infant mortality, there seems to be no doubt that the rate is high for Chile, a fact surprising in view of the healthful climate and abundance of good food produced in the country. Santiago province registered during 1919 a death rate of children under one year of 37 per cent, nine thousand dying out of twenty-four thousand born. Many other towns registered high mortality rates, but inside this figure. Of these same 24,000 babies, 10,000 were born out of wedlock.

The two sets of figures no doubt have relation to each other, but it should be said at once that large

rs of the children officially registered illegiti-
re only officially so regarded. Civil marriages
re recognised by Chilean law, and if this cere-
is omitted the couple are officially unmarried
gh a priest may have united them.

he country districts, distances are far and mar-
ees no light matter to an agricultural popula-
many stories are told of young couples making
journey to the nearest office where a wedding
e performed, finding it shut, and returning to
house without being able to make another at-
at matrimony. The clergy are accused, perhaps
t sufficient reason, of setting their faces against
il marriage, and there was certainly a period in
when the laws were first enforced, when devout
n of the Church who refused to go through the
form were forbidden the religious ceremony,
rriages amongst the more obstinate circles prac-
ceased.



ful and intellectual women of Santiago, is working towards the solution of a serious social problem.

Through the force of economic circumstance, the question of the employment of women is not one which is likely to be reconsidered in Chile.

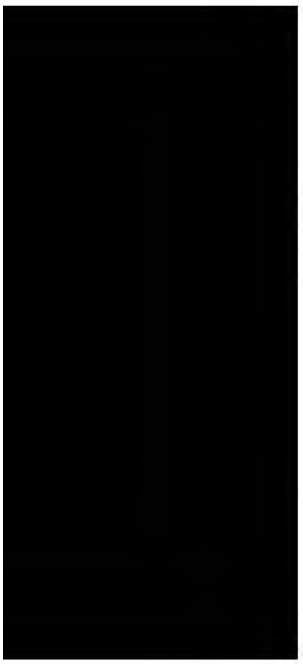
Large groups of men are drawn to isolated camps in the copper and nitrate fields, and there is a resulting tendency for women in the other regions to take up work in factories, public services, etc.

It was the War of the Pacific that brought women into the employ of the street-car companies in Valparaiso and Santiago, for with the men absent in the army there were gaps in the ranks of workers. When the men returned their female supplanters refused to give up their berths, and remained victors. One feels sympathy with their spirited attitude, and, despite the unlovely dress imposed by the German tramway owners in early days (which includes the apron of a *hausfrau*) they make a generally good impression. It is doubtful whether such work is well suited to women; the hours are long — the old (now altered) time schedule kept certain women at work as conductors for fourteen hours a day — and the strain is plainly great upon feminine endurance.

Employment in the Chilean post-offices is not within the same category, but one becomes in South America so well accustomed to the general and graceful habit of service to women that a certain mental adjustment is required before one becomes inured to receiving service from them. If the far-famed Chilean politeness, a genial flame of nation-wide brightness, suffers an occasional eclipse, it is almost invariably due to the widespread employment of women.

PROVINCES AND POPULATION OF CHILE

Province	Departments	Area in Sq. Kilometres	Population Census of Provinces, 1920
Tarapacá	Tarapacá, Arica, Tarata	[illegible]	[illegible]
Tacapacá	Tacapacá, Pisagua	[illegible]	[illegible]
Antofagasta	Antofagasta, Tocopilla, Taltal	[illegible]	[illegible]
Atacama	Copiapó, Chañaral, Freirina, Vallenar	[illegible]	[illegible]
Coquimbo	La Serena, Elqui, Ovalle, Coquimbo, Combarbala, Illapel	[illegible]	[illegible]
Aconcagua	San Felipe, Petorca, Putaendo, La Ligua, Los Andes	[illegible]	[illegible]
Valparaiso	Valparaiso, Quillota, Limache, Casablanca	[illegible]	[illegible]
Santiago	Santiago, La Victoria, Melipilla, San Antonio	[illegible]	[illegible]
O'Higgins	Rancagua, Cachapoal, Maipo	[illegible]	[illegible]
Colchagua	San Fernando, Caupolicán	[illegible]	[illegible]
Curicó	Curicó, Santa Cruz, Vichuquén	[illegible]	[illegible]
Talca	Talca, Lontué, Curepto	[illegible]	[illegible]



PROVINCES AND POPULATION OF CHILE

Province	*Departments*	*Area in Sq. Kilometres*	*Population, Census of December, 1920*
Tacna	Tacna, Arica, Tarata	23,306	38,902
Tarapacá	Tarapacá, Pisagua	43,220	100,533
Antofagasta	Antofagasta, Tocopilla, Taltal	120,183	172,330
Atacama	Copiapó, Chañaral, Freirina, Vallenar	79,531	48,413
Coquimbo	La Serena, Elqui, Ovalle, Coquimbo, Combarbalá, Illapel	36,509	160,256
Aconcagua	San Felipe, Petorca, Putaendo, La Ligua, Los Andes	14,000	116,914
Valparaiso	Valparaiso, Quillota, Limache, Casablanca	4,598	320,398
Santiago	Santiago, La Victoria, Melipilla, San Antonio	15,260	685,358
O'Higgins	Rancagua, Cachapoal, Maipo	5,617	118,591
Colchagua	San Fernando, Caupolicán	9,973	166,342
Curicó	Curicó, Santa Cruz, Vichuquén	7,885	108,148
Talca	Talca, Lontué, Curepto	10,006	133,957

ace	*Departments*	*Area in Sq. Kilometres*	*Population, Census of December, 1920*
.....	Cauquenes, Constitución, Chanco, Itatá.....	7,281.....	113,231
.....	Linares, Loncomilla, Parral	10,279.....	119,284
.....	Chillán, San Carlos, Bulnes, Yungay.....	9,050.....	170,425
ión.....	Concepción, Coelemu, Talcahuano, Puchacai, Lautaro, Rere.....	8,579.....	247,611
.....	Lebu, Arauco, Cañete....	5,668.....	60,233
.....	La Laja, Nascimiento, Mulchen.....	13,863.....	107,072
.....	Angol, Collipulli, Traiguén, Mariluán.....	8,555.....	121,429
.....	Temuco, Imperial, Llaima.	16,524.....	193,628

CHILEAN TERMS

Aji: small red peppers, highly aromatic, grown in the northerly regions; used extensively in Chilean cooking.

Alerce: a tall conifer of South Chile; fine lumber. *Alerzal,* a wood of *alerce* trees.

Algarroba: the sweet pod of the minosa-like Algarrobo tree (North).

Algarrobo: (al carob, Arabic), term applied by Spanish to small thorny tree bearing pods used as cattle fodder (North).

Antofagastino: native of Antofagasta.

Arenal: sand desert, sand-laden wind.

Atacameño: native of Atacama.

Avellano: small tree (Central and South) yielding the avellana, a soft-shelled nut resembling the hazel.

Bolas: throwing weapon used by mounted cattlemen or hunters; long pliable rope or hide thong with heavy weights at either end, flung in such a manner that it enwraps and twists about the legs of the animal pursued.

Boldo: a small tree yielding the drug *boldaina.*

Boquete: a mountain pass.

Brasero: deep dish or bowl, usually made of copper or silver, filled with charcoal and heated for cooking purposes or to warm a room.

Butre: smallest wild bamboo.

Cajón: a gap in the high mountains.

Caliche: strata containing nitrate of soda.

Camanchaca: fog or mist over the northern plains.

Cancha: depot (for ores, North); gun-park; tennis-court.

Candeal: hard brown wheat of the southerly provinces.

Canelo: sweet-smelling small tree (Central Chile), the "South American cinnamon."

Capacho: bag used for carrying ore, made of hide.

Capataz: foreman of workers.

Carbonado: a Chilean soup.

Cardón: applied to various thistles and especially to the big blue-flowered *Cynara cardunculus,* growing through Central and South Chile, but the term is also used for many spiny plants and leaves, for the wild artichoke and the thorny leaves of the Puya.

Cateo: the search for a mine.

CHILEAN TERMS

thick stew, made with chicken, rice. potatos, aji, etc.
country wine, lightly fermented.
a small cultivated plot of land.
applied generally to *Puya chilensis* or *Puya coarctata*, wing freely from the sea border to Andean slopes in all ıtral Chile: the tall spike of blue, or in other varieties yel- flowers is the "chagual," while the spiny leaf is called rdón" and the big thorns used as knitting-needles; the ers are gathered for their honey.
: twenty centavo piece.
small tree (North), yielding date-like fruit. *Chañaral*, ıp of chañar trees.
dried meat ("jerked" beef).
an: Chilean dish made with charqui.
heavy liquor made from grapes or apples; formerly made n wild berries by Indians of Chile.
(a): native of Chile.
que: Araucanian name for the Guanaco.
native of Chiloé.
la: small fur-bearing rodent, today scarce and valuable.
a: wattled booths set up at fairs for the assembly of musi- ıs and dancers.
o: saddle-cloth, woven of thick black-dyed wool (South).
maize.
ı Peruvian. Cf. *Godo*, a Spaniard; *Gabacho*, Frenchman.

Cueca: a popular soup.

Cueca, or *sama-cueca:* the Chilean national dance.

Culén (*Cytisus Arboreus*): prophylactic against witchcraft: leaves dried to make a medicinal tea and gum from stalks; well known as a vermifuge.

Cupilca: thick liquid or thin paste made with toasted and powdered wheat or maize and mixed with chicha or chacolí.

Curado: "half seas over."

Curanto: Indian dish of meat and vegetables, originally cooked in a stone-lined hole in the ground.

Cuyano: a native of the Argentine. Properly, applied to one born in the old province of Cuyo, formerly including the then Chilean provinces of Mendoza, San Juan and San Luis, but used familiarly of any one born in Argentina.

Despacho: shop or store on an estate or mine where goods are sold to employés.

Empanada: a paté, filled with chopped meat, onions, gravy, etc., and served hot.

Estrada: raised bench generally built across the end of a living room, used in colonial days as a seat for all the ladies of the family.

Fernandecino (a): native of the Juan Fernandez group of islands.

Floripondio: large white pendant flowers of the *Datura arborea,* growing as a fairly large tree in Chile. Infusions yield the *huanto,* a drugging drink used in regions of Quechua influence by witch-doctors to obtain insensibility and visions; *huanto* is similar in effect to the *natema* of Amazonian headwaters; *caapi* of Eastern Ecuador, and *ayahuasca* of Peru.

Fundo: a general farm. *Fundo de rulo,* a non-irrigated farm.

Futre: a pretentious person; in copper mines, a ghost or imp.

Garúa: fine rain, like a "Scotch mist" (North).

Guachuchero: a liquor-smuggler (mining regions).

Guagua: a baby (Araucanian Indian).

Guaira, guairachina: little smelters built on hilltop to catch the breeze.

Gualcacho: (Araucanian) plant yielding a small native grain similar to but more delicate than maize.

Gualhue: (Araucanian) damp ground, usually near a river, suitable for maize cultivation.

Guanaco: ruminant quadruped, still found in considerable numbers in the wild mountainous regions, all the way from the Bolivian border to Tierra del Fuego. Rugs and coverings made of the thick tawny hair, and the flesh eaten by Indians. In Ch. slang, a "guanaco" is a country bumpkin, a "hayseed."

Guaso, huaso: a cow-boy (Central Chile).

CHILEAN TERMS

huemul: the native deer of Chilean woodland.
Hueco: to be unintelligible.
properly, a motherless calf, but applied to any waif.
a whip: originally applied to a supple creeper or liana of orests, used as a cord or thong.
maize paste.
: farm-worker on a Chilean estate, on special conditions. lly given free house, land for cultivation, rations, small s, and use of implements.
: wintering-place for cattle.
tree used for fuel. Leaves poisonous, affecting persons in ree's shade.
Lareta acaulis): umbelliferous plant of low growth, spread- o an enormous size like a giant mushroom: grows in up- s of Tacna and Antofagasta, and is cut, dried on lower s, and brought down to inhabited regions to serve as fuel.
ea-weed used for making stews.
large tree supplying good timber.
nedicine-woman of the Araucanians.
tree with white wood. Leaves infused to obtain a febrifuge.
: the small Chilean pony.
properly, a one-armed man, but applied to broken-down es.
a finely-woven poncho, often of alpaca or vicuna wool.
to, black shawl worn by women when attending church

Puno: mountain sickness due to rarefied air: more commonly called *soroche* in Peru and Bolivia.

Puntarrense: native of Punta Arenas.

Puya (Puya chilensis, formerly listed as Pourretia coarctata): group of plants common in Chile, belonging to the genus Bromeliacrae, different varieties bearing light or dark blue or yellow flowers arranged in a huge spike; large orange stamens. The spiny leaves form a thick rosette at the base, in a form similar to that of the related pineapple. Feature of landscape in Central Chile, on spurs of hills. The light pith of the mature stem of the tall flower-spike, more buoyant than cork, is used for fishing floats and for sharpening razors.

Quelghen: the Chilean native strawberry, remains white when ripe, very sweet.

Quila: the small climbing bamboo of the South.

Quillay: a tree yielding a saponaceous bark much used in Chile.

Quintral: a beautiful scarlet-blossomed parasite upon poplar and other trees.

Quisco (*Cereus quisco*): columnar cactus of Central and northerly Chile, called "torch thistle"; thorns used as needles; grows 12 to 18 ft.

Raule: a fine timber tree with red wood.

Roble: properly, oak, but applied to the Chilean beeches (South).

Roto: a "ragged man," originally: now applied to any worker.

Salitre: nitrate of soda.

Santiaguino (a): native of Santiago.

Siutico: "low-class" person; same meaning as *mediopelo.*

Soroche: See *Puno.*

Tajamar: wall or bank built to restrain the flood of sea or river; that of the Mapocho river a famous promenade in Santiago.

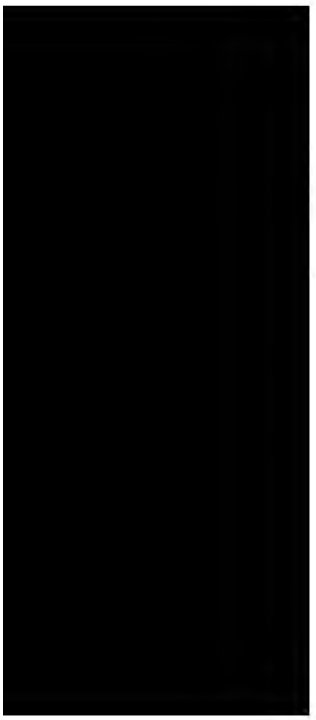
Templados: people in love; same meaning as *encamotados.*

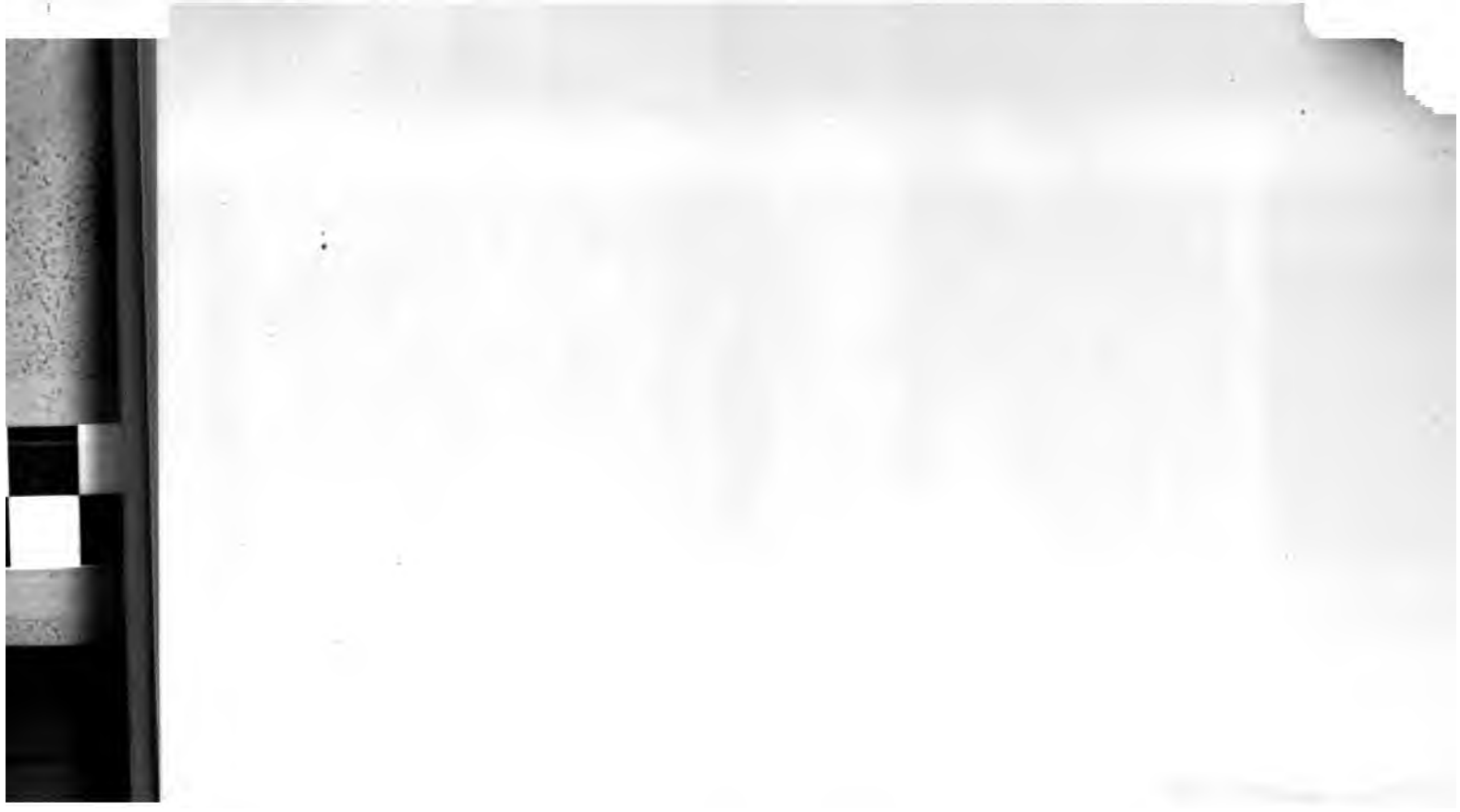
Ulmo: drink made of parched and ground corn or maize (Indian).

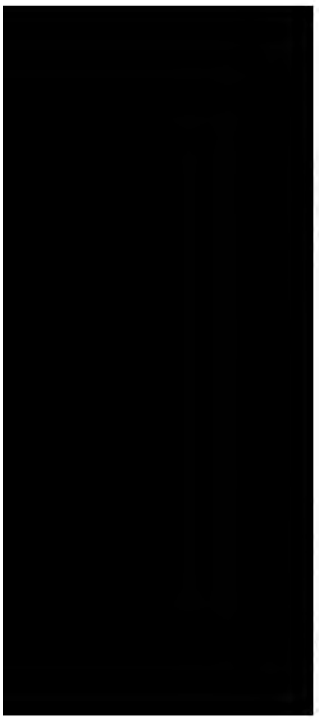
Valdiviano: a native of Valdivia; also name of a vegetable soup.

Ventisqueros: glaciers; frequently driven by wind into frozen snow pinnacles, commonly called in Chile "nieves penitentes."

Williwaw: a squall in Magellanic territory (Scots).







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